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LECTURE I.

Delivered on May 9th.

MR. DEAN AND GENTLEMEN,—The Ingleby Lectures were established in connexion with Queen's College in the year 1876 and were intended to promote "the advancement of obstetric medicine and surgery, including diseases of women and children, being a branch of medical science in which Dr. John Tomlinson Ingleby acquired considerable reputation." Dr. Ingleby practised in Birmingham from the year 1816 until his death at the end of January, 1845. The writer of an eloquent and appreciative obituary notice tells us that death resulted from pneumonia, for which it is interesting as showing the difference between the treatment of inflammations then and now to note that blood was taken to the amount of a pint from the arm, leeches were applied to the head, followed by a blister and a cathartic of colocynth, and small doses of calomel at short intervals. Two days after the acute onset of the pneumonia the patient was seized with intense headache, for which effusions of cold water were used, followed by leeches to the side of the head, and other remedies; delirium followed, and the patient died on the fifth day from the onset of the pneumonia. Post-mortem examination disclosed pleurisy on the right side and meningitis. The writer in his summary states that "from beginning to end the case was clearly one of metastatic gout, altering its features with the several organs it visited, but uniformly distinguishing itself by the characteristics of specific inflammation." In the light of present-day knowledge it is probable that the cause of death was a terminal infection by the pneumococcus.

Dr. Ingleby completed his fiftieth year shortly before his death, "a victim to the undue devotion to study and to the duties of his immense practice." He was the first specialist in obstetric medicine in Birmingham, and lectured on midwifery when the medical school was first formed in this city in 1828. He was one of the original members of the still flourishing Medical Benevolent Society, and it is good evidence of the esteem in which he was held by his professional brethren that, as I am informed by Mr. W. F. Haslam, he was appointed president of the society in 1836. As an author on obstetric subjects Dr. Ingleby was without a provincial rival, and his writings, as Dr. C. J. Cullingworth has remarked, were evidently the outcome of close personal observation and of a sound judgment, and appear to have fairly reflected the best opinions and the best practice of the time. Among several papers by Dr. Ingleby, published in the *Edinburgh Medical and Surgical Journal*, is one in relation to the subject of these lectures in Vol. XLIX. for 1838, in which he relates several epidemics of puerperal fever which occurred in Birmingham in the years 1826, 1833, and later. In this paper the author insists upon the great contagiousness of the affection, and recognises the fact that erysipelas and puerperal fever may both be due to the same morbid poison. He refers to the then recent researches of Dr. Robert Lee on the morbid anatomy of puerperal fever.

At that time scientific knowledge of pelvic inflammations was rudimentary and it was not until the second half of the century that a deeper insight began to be obtained into the nature of inflammation in general and those of the uterine appendages in particular. After Dr. Lee's researches the next important work appears to have been that of Bernutz and Goupil, who, in 1857, first made known to the profession that gonorrhœa frequently gives rise to severe inflammation of the uterine appendages and pelvic peritoneum. In 1872 Noeggerath, in an epoch-making paper, emphasised with some pardonable exaggeration the wide-spread and disastrous effects produced by gonorrhœa on the female pelvic organs. In 1879 the gonococcus was discovered by Neisser. About this time the development of modern surgery began to pave the way for a fuller knowledge of these affections and among the earliest workers in this field the name of our late fellow-townsman, Lawson Tait, stands conspicuous. In the early "eighties" Tait on many occasions brought before the Pathological and Obstetrical Societies papers on, and specimens of, pyosalpinx removed by operation from patients in whom they had been the cause of grave persistent illnesses.

Like all other leaders of men Lawson Tait not merely drew to himself a large following of disciples and believers, but excited among the more conservative members of the profession a determined opposition. He was not long in gaining support from the pathological side. In 1884 J. K. Fowler read a paper before the Medical Society of London in which he related 15 cases of diseases of the uterine appendages occurring in the post-mortem room at the Middlesex Hospital in the preceding three years. In at least seven of the cases death had resulted from the condition, in several of them from ruptured pyosalpinx; while testimony to the severe and long-continued exhausting illness which may result from pyosalpinx is found in the fact that two of the patients died with amyloid disease of the viscera. Three years later Lewers at the Obstetrical Society related his observations on 100 post-mortem examinations of female patients at the London Hospital; he had found pyosalpinx in five of the cases, hæmatosalpinx in four, and hydrosalpinx alone or combined with pyo- or hæmato-salpinx in eight. A few years later, in 1892, Cullingworth read a paper at the same society on the value of abdominal section in certain cases of pelvic peritonitis, based on a personal experience of 50 cases; and since this time it has been universally recognised by the profession in this country that surgical treatment is not only justifiable but of the greatest value in certain inflammations of the uterine appendages.

Formerly pelvic inflammation could only be studied at the bedside and in the post-mortem room. Now abundant material is provided by the numerous operations performed for these affections and frequent opportunities are afforded for comparing the results of clinical examination with the actual conditions present in the diseased organs. In the investigation the aid of the microscope, of chemistry, and of bacteriology is invoked, and in the last few years a further great impetus has been given to the research by the development of bio-chemical methods. At the present time a case of pelvic inflammation demands not merely the use of all the time-honoured methods of clinical examination, subjective and objective, but calls for the employment by specially skilled observers of chemical and bacteriological methods of determining the characters of the blood, of the discharges, and of fluids and tissues which may be removed either during the life or after the death of the patient.

At a large general hospital such as the one to which I have the honour to be attached abundant opportunities are presented of studying pelvic inflammations in the female in all stages and degrees of severity. Among the out-patients in the special department for diseases of women are seen the slighter cases that are amenable to simpler methods of treatment. Here 1 patient in every 8 is affected by inflammation of the pelvic peritoneum or cellular tissue or of the uterine appendages. In a consecutive series of 8714 special cases of diseases of women seen by me 1092 (12·5 per cent.) applied for treatment for these affections. The diagnosis of the various conditions observed was as follows:—

Acute pelvic cellulitis	70
Subacute or chronic cellulitis	43
Acute inflammations complicating pregnancy	4
Acute pelvic peritonitis	258
Suppurative peritonitis	4
Tuberculous peritonitis	27
Chronic pelvic peritonitis	131
Salpingitis	86
Salpingo-ovaritis	217
Ovaritis	223
Adherent retroversion of the uterus	29
Total	1092

These headings represent merely working clinical diagnoses and as in the great majority of the patients recovery, partial or complete, has taken place without operation—that is to say, without the opportunity of actually inspecting the affected organs—it has not seemed necessary or even useful further to analyse the cases upon this occasion.

In the post-mortem room we are able to see the end result of the affections in the worst cases, and for this purpose I

have examined the records of 1487 consecutive necropsies on females that have been made in the General Hospital from 1891 until the middle of the year 1906. The notes vary much in value according to the attention paid to the pelvic organs by the pathologist for the time being but abundant evidence is afforded of the frequency and gravity of the affections we are considering. Secondary infections of the Fallopian tubes of merely pathological interest are frequently observed, as in cases of perforative peritonitis from various causes where the resulting exudation invades the open fimbriated extremities; in patients dying from tuberculous affections, in whom the tubes and pelvic peritoneum are frequently involved; and in women dying from cardiac diseases, in whom catarrhal salpingitis is common. Cases in which death is directly brought about by diseases arising in the generative organs are also common enough. The affections may be fatal in the acute stage from septicæmia, pyæmia, or peritonitis, or in the later stages from rupture, or perforation and peritonitis, or from intestinal obstruction. The most frequent cause of death in the earlier stages is puerperal infection and in the present series are included 22 such cases. One patient died from thrombosis of the inferior vena cava arising from a pelvic peritonitis. In four patients acute gonorrhœal peritonitis, and in one patient gonorrhœal pyæmia, caused death. The fatal issue may result after a long period has elapsed, sometimes many years after the originating infection. Thus fatal peritonitis was caused by rupture of a pyosalpinx in seven instances and of an ovarian abscess in two, while saprophytic infection of an old tuberculous pyosalpinx led to the death of another patient. In 17 cases intestinal obstruction was set up by bands having one end attached to the uterus or its appendages; in five of these there had been previous operations on the pelvic organs, in the other 12 none. In two cases it is noted that hydronephrosis had arisen from pressure on the ureters by pyosalpinx. One of these cases was of peculiar interest; it occurred in a rickety child, aged two and a half years, who died from gonococcal peritonitis; the tubes contained thin pus and the pathologist observes that "it is evidently their pressure that has caused narrowing of the ureters and hydronephrosis." The pus in the tubes contained diplococci, mostly intracellular, not taking Gram's stain. Seven patients died from infection by the pneumococcus, and in six of them it is distinctly stated that the uterus and appendages were healthy; three, however, had been recently delivered, so that it would appear that the puerperal state in some way predisposes to infection by the pneumococcus, but that the invasion does not take place by way of the pelvic organs.

In this account of post-mortem observations on pelvic inflammations in the female I have purposely omitted any reference to the examinations made upon patients dying after gynæcological operations. The cases of intestinal obstruction and of ruptured pyosalpinx referred to came in the ordinary course of emergency operations to my surgical colleagues and the information gained from necropsies on my own patients has been used in the analysis of in-patient cases.

The most acute and severe cases of pelvic inflammation that apply for help are admitted for in-patient treatment, in most instances by operation. In a certain proportion after further observation operative treatment is not considered necessary or is rejected. For the present purpose 38 such cases are not considered, because conclusions to be of service, in my opinion, should be based, not merely upon clinical observation of patients, but also upon a careful investigation at operation or post-mortem examination of the diseased organs. For the purposes of these lectures I have analysed the notes of every case of inflammation of the uterine appendages and of the pelvic peritoneum and cellular tissue that has come under my care for operation in the in-patient department of the General Hospital up to the end of 1906; in most of the cases the necessary surgical treatment has been carried out by myself, but in a certain number the operations have been performed by my colleague, Mr. J. T. Hewetson, and by the resident surgical officers. All my private operations until the same date have been included in the analysis. The total number of cases is 307, in which are included six of puerperal pyæmia and 41 of suppuration of the pelvic cellular tissue.

Pelvic cellulitic abscess.—Of the cases of extraperitoneal abscess one which had existed since the previous labour and had opened into the vagina was complicated by pregnancy; in another patient a small abscess formed between the layers of the outer part of the broad ligament after an abortion; and in a third persistent suppuration of the connective tissue surrounding the supravaginal cervix followed upon an operation for removal of the appendages performed elsewhere. All the other cases were puerperal, and with two exceptions were operated upon within three months of labour. In one patient who was very ill with a third attack of acute lateral cellulitis five years had elapsed since the last labour, with which the history clearly connected the abscess. The other exception occurred in a patient two and a half years after the last labour; there was no leucocytosis; through a subperitoneal incision curdy matter in which was a calcareous nodule was evacuated; the pus contained small diplococci growing feebly on agar and staining by Gram's method, but no tubercle bacilli could be found; two months after the operation there was still a mass behind the uterus, probably caused by a pyosalpinx. The situation of the abscess in these extraperitoneal cases was in the lateral connective tissue in 31, in the connective tissue behind the uterus in eight, and between the layers of the broad ligament in two, both verified by abdominal section. In five of the cases an exploratory laparotomy was performed and in every instance disclosed adhesions of the appendages on the side affected, varying from a few loose membranes to dense brawny induration.

Intraperitoneal abscess.—Among the remaining 260 cases of pelvic inflammation there were 41 cases of intraperitoneal suppuration, of which 12 associated with pyosalpinx will be considered in that connexion. Of 12 other cases in which a posterior vaginal incision was made, in six the appendages were made out to be adherent and enlarged; in the other six the appendages could not be definitely recognised. 17 cases treated by abdominal incision and drainage included one where the uterus had been perforated in curetting for an incomplete abortion, and four in which the origin of the pus could not be made out with certainty. In a sixth patient the whole pelvis was filled by a dense, hard, inflammatory mass, containing disseminated small collections of pus and the relations to the organs could not be made out. The other cases occurred in parous patients and had probably originated in the appendages. Of the whole number of 41 intraperitoneal abscesses 18 certainly, and 11 more with great probability, had originated in affections of the uterus or the adnexa. Of the remaining 12 suppuration had been caused by infected ligatures or infection at a previous operation in five and the pathological relations were obscure in several. Excluding puerperal pyæmia and cellulitic abscess, and subtracting 12 cases of pelvic abscess, some of them of doubtful origin, it appears that of 260 pelvic inflammations treated by operation in the female 248 originated in the uterine appendages. Of these 151 were for suppurating conditions and 97 for catarrhal or non-suppurative; the affections may be classified as follows:—

Catarrhal salpingitis and ovaritis	60
Ovarian hæmatoma	11
Hydrosalpinx	26
Pyosalpinx	80
Pyosalpinx with ovarian abscess	17
Pyosalpinx with pelvic abscess	12
Ovarian abscess without pyosalpinx	14
Pelvic abscess originating in the uterine appendages	17
Tuberculous appendages	11
Total	248

ANATOMY.

The vagina and uterus, with the Fallopian tubes and ovaries, are contained, together with the bladder and part of the rectum, in a potential space bounded by the peritoneum above and the pelvic fascia below, and continuous all round with the subperitoneal connective-tissue space of the rest of the abdominal wall. That part of this potential space which is not occupied by the organs is filled up by the pelvic connective tissue, which is abundant about the supravaginal cervix. From the cervix on either side radiate three considerable collections of the connective tissue, the largest forming the connective tissue at the base of the broad ligament, otherwise called the cardinal ligament of the cervix; the next most important collection, the utero-sacral ligament, takes a curved course upwards and backwards towards the second piece of the sacrum, and the third runs forward under the bladder towards the back of the pubes. The ovary is covered not by peritoneum but by germinal epithelium, and may be considered as projecting through a hole in the posterior layer of the broad ligament. The

vascular and lymphatic supplies of the ovary communicate freely through the hilum with those of the pelvic connective tissue. In the connective tissue run many important structures of which the chief for our present purpose are the arteries and veins and the lymphatic vessels. The ovarian artery, accompanied by the ovarian plexus of veins courses over the psoas muscle, through the ovario-pelvic ligament, along the upper part of the mesometrium to the side of the uterus, where the vessels very freely anastomose with the uterine artery and plexus of veins. The latter run inwards from the internal iliac vessels on the side of the pelvis, through the connective tissue at the base of the broad ligament, and turn upwards along the side of the uterus without entering its substance. The lymphatic vessels are also collected into two main plexuses, roughly corresponding to the veins. The ovarian lymphatics take the direction of the ovarian vessels upwards over the psoas and join some of the middle lumbar glands lying in close relation to the aorta and vena cava. The uterine plexus of lymphatics takes a similar course to that of the uterine veins and joins the lymphatic glands which are situated at the bifurcation of the common iliac and along the external iliac vessels. In their course from the uterus to the side of the pelvis the ovarian plexus and lymphatics receive communicating branches from those of the ovary and of the Fallopian tube. The ureters run from behind forwards and inwards through the cardinal ligament at the level of the isthmus and at a distance of about two-thirds of an inch laterally from the cervix. This relation is of importance, because sometimes cicatricial contraction of the pelvic connective tissue, the result of inflammation, compresses the ureter and gives rise to dilatation, hydronephrosis, and predisposition to suppuration of the kidney.

The relation of the organs to each other as seen from the peritoneal aspect is important from the practical point of view. The uterus with the broad ligaments stretch across the true pelvis from side to side, dividing the cavity into a shallow anterior fossa and a deep and complicated posterior one. The posterior fossa may be divided into three portions—one median and two lateral. The middle portion in its upper part is bounded in front by the uterus and behind by the front of the sacrum. The lower part forms Douglas's pouch and is marked off from the upper part by the utero-sacral ligaments; it extends downwards behind the upper part of the vagina and its posterior wall is formed by the rectum, which loses its peritoneal covering as it passes below the apex of the pouch. The lateral portion of the posterior pelvic fossa is placed at the side of the uterus above the utero-sacral fold and is bounded in front by the back of the broad ligament, to which the ovary is attached by the meso-varium. Over the ovary the Fallopian tube with the meso-salpinx is thrown like a cloak, the tube circling round so that its fimbriated extremity comes to lie below the lower end of the ovary a little above the level of the fold of Douglas.

The peritoneum is loosely connected to all the organs with the exception of part of the body of the uterus. With the anterior and posterior walls of the uterus as low down as the vesico-uterine pouch in front and as the insertion of the vagina behind the peritoneum is intimately connected, and immediately under it is situated the largest and closest plexus of the lymphatics of the uterine wall. This is a fact of great importance from the point of view of the spread of certain germs in puerperal infections.

PATHOLOGY.

Inflammation is the name given to the reaction of the tissues to the irritant effect of an injury, mechanical, thermal, chemical, or bacterial. In the pelvic organs inflammation is occasionally seen as the effect of mechanical or chemical irritants. Hæmorrhage into the peritoneum from tubal gestation sets up a surrounding and limiting adhesive peritonitis without the aid of micro-organisms; and a similar non-spreading simple peritonitis arises, for instance, in twisting of the pedicle of an ovarian tumour or of a pedunculated uterine fibroid. In certain cases so-called catarrhal inflammations of the tubes, as of other organs, are put down to supposititious causes which merely serve as a cloak for ignorance. Most of these cases probably depend on the action of germs, the mildness of the resulting changes being explained either by attenuation of the organisms or relative immunity on the part of the host. At any rate the so-called catarrhal cases shade imperceptibly into the purulent group, and it may be stated with confidence that severe and especially spreading inflammation depends upon bacterial causes; the tendency is constantly to trace more and more cases of all kinds of inflammation of the uterine adnexa as of other organs in the body to the action, recent or remote in time, of living germs. In recent cases living organisms can always be demonstrated by suitable methods, but after a certain time the germs tend to die; after they are dead their bodies disappear, so that the products of inflammation, even pus that has existed for a few months, are frequently sterile both in films and cultures.

For the present purpose the uterus and its appendages must be considered not as a collection of independent though continuous organs but as forming, together with the neighbouring peritoneum and pelvic connective tissue, a closely connected system, along the interior of which runs a canal leading directly from the surface of the body into the peritoneal cavity. In this canal are various narrowings, the external and internal os, the uterine orifices of the tubes, and their peritoneal openings. These afford very little resistance to the passage upwards of minute bodies and C. J. Bond has demonstrated that even inanimate particles quickly find their way from the vagina along the uterus and tubes into the peritoneal cavity, probably impelled upwards by mucous currents. In spite of this upward current, however, the upper part of the generative canal remains free from germs under ordinary conditions. In the lower part micro-organisms of many kinds normally live and thrive and among them are frequently found pathogenic germs, such as staphylococcus pyogenes albus and streptococcus pyogenes, probably in a state of diminished virulence. The upper boundary of the germ-containing portion is somewhere in the cervical canal; above this, in the epithelium and discharges of the body of the uterus, in the Fallopian tubes and the peritoneal cavity, no germs are found in the epithelium or secretions under normal conditions.

The body in a state of health is able to protect itself from invasion by germs and although these are the cause of certain affections, other suitable conditions must be present—that is to say, the organisms must be placed in favourable circumstances. Virulent cultures of pathogenic organisms such as the streptococcus pyogenes have been introduced into a healthy vagina and found to disappear in a very short time, while, as is well known, a similar introduction in other circumstances, as for instance, during parturition, may rapidly lead to the patient's death. Here as elsewhere not one agent, but a number of causes all converging towards the same point, are necessary for the production of disease.

It is necessary to distinguish between the time of implantation of pathogenic germs in the genital canal and that of their further spread either higher up the canal or into the tissues; a considerable period, amounting often to years, may intervene between these two occurrences. By far the most common opportunities for the introduction of virulent organisms are afforded by parturition and sexual intercourse. During the process of delivery, either at full term or in the earlier months of pregnancy, germs may be directly introduced, by the hands or fingers of the attendants, by septic instruments or appliances, or by dirty sponges, diapers, or articles of clothing. In sexual intercourse the gonococcus may be implanted, most commonly in the urethra and cervical canal. Much less frequently in these days of aseptic surgery infection takes place directly as the result of operations or of examinations carried out by dirty fingers or instruments. All these opportunities of infection occur practically without exception in women in the full vigour of adult life. In infants and young children the usual mode of infection by germs is direct inoculation by means of towels and clothes that have been defiled by specific discharge from other persons.

Among the conditions that favour the upward spread of organisms, already present or just implanted in the lower genital tract, are parturition and abortion. In pregnancy a great development of blood-vessels and lymphatics takes place in the uterus and its neighbouring organs and tissues, and the circulation of blood and lymph is extremely active both in this condition and for a time after delivery. At the placental site the mouths of large veins are plugged by blood clot. Bruises and lacerations of the tissues take place during the emptying of the uterus and afford a suitable nidus for the growth of germs; while the discharges, at first, unfavourable to such growth, soon appear to lose their protective properties. All these conditions are most favourable after delivery at term, but are present to a varying degree after abortion at any time. Menstruation

also affords opportunities favourable to the extension of germs, more especially under certain conditions, such as over-exertion or exposure to cold. At this time the general resistance of the body is lowered, the patient feeling "unwell," and the menstrual discharges appear in certain circumstances to become altered in quality and suitable for the development of germs. Injuries produced by rough examination or by operations may lead to the spread or renewed activity of germs already present, as not uncommonly happens after forcible reduction of an adherent retroversion, or after curetting in the presence of a chronic salpingitis or pelvic peritonitis. The acute exanthemata also play a part in this respect, and it is probable that a certain number of cases of chronic pelvic inflammation in virgin adults may really have originated in an attack of scarlet fever or measles in childhood. Lawson Tait saw a number of cases of pelvic inflammation arising in small-pox in the Birmingham epidemic of 1872.

Puberty and the climateric also appear to have some influence. At the former epoch tuberculous affections of the generative organs not uncommonly occur, and at the latter inflammatory conditions of the organs that may have been dormant for years are apt to take on renewed activity.

When invasion or extension takes place the result depends, in the first place, upon the degree of virulence of the germs; instances have not been wanting where a virulent variety of germ, of streptococcus for instance, has created havoc in a number of obstetrical cases; even in such a series great individual variations are observed in the degree of injury inflicted upon different patients: many may die, others recover after a prolonged and painful struggle, and still others escape with comparative impunity. In the second place, the severity of the infection depends on the number of germs getting access to the body; this is only true to a certain extent, a relatively small number of virulent streptococci, for instance, being sometimes sufficient to cause death, while a large inoculation may only lead to a localised suppuration. The result depends, in the third place, on the resistance of the patient's tissues and blood fluids. This resistance is of extreme importance in determining the issue of the infection and must be invoked in explanation of the great variations in the severity of cases in the same epidemic. It is notorious that in certain conditions—such as chronic alcoholism, diabetes, chronic Bright's disease—the bodily resistance to invasion by the germs of wound and puerperal infection is greatly diminished; while the presence of a chronic inflammation, especially of a pus focus, forms a place of lessened resistance to the growth of septic and putrid organisms. Our knowledge of this part of the subject is, however, very limited, and convenient methods of observing and measuring the resistance of the body, local and general, are much to be desired.

The germs concerned spread further into the body along different routes, which depend to a considerable extent on peculiarities in the vital functions of the germs themselves. The best understood examples in this connexion are the two commonest causes of pelvic inflammation—the streptococcus, which tends to penetrate the tissues and spread along the lymphatics and blood-vessels; and the gonococcus, which tends to extend by continuity along certain surfaces. Let us first briefly consider the sequence of events that follows on streptococcus invasion.

Invasion by streptococcus pyogenes.—In the case of puerperal infection by the streptococcus the germ multiplies first in the fluids and on the surface of the endometrium, whence in some cases it penetrates into the uterine wall, either at the placental site or over the whole surface of the endometrium. In other instances invasion takes place by way of a laceration of the vagina, cervix, or other part of the genital canal. In the most severe and fatal cases the spread is first along the lymphatic spaces, by which it easily penetrates the thickness of the uterine wall until it attains the close and abundant plexus of lymphatic vessels immediately under the peritoneal covering of the organ. Through the serous membrane the streptococcus passes into the peritoneal cavity where it sets up a varying degree of peritonitis; if the patient survives the infection may invade the ovary from its peritoneal surface, giving rise to different varieties of ovaritis, follicular and interstitial; the Fallopian tube is invaded through its open peritoneal end, and may be closed as a consequence of peritonitis, the fimbriæ being plastered down on to some neighbouring surface.

In other cases the streptococcus spreads along the lymph vessels in the uterine wall into the ovarian or uterine plexus of lymphatics and gives origin to a lymphangitis. Where the spread takes place along the ovarian lymphatic plexus the resulting inflammation may extend widely in the posterior part of the iliac fossa and up the back of the abdomen, irritating and setting up inflammation in the lumbar lymphatic glands at the level of the lower ends of the kidneys; where the uterine lymphatics are invaded the inflammation extends outwards between the layers of the broad ligament to the side of the pelvis, the iliac glands being implicated, especially those at the bifurcation of the common iliac and along the external iliac vessels. A further result of extension along the ovarian plexus may be the spread of inflammation into the hilum of the ovary along the communicating ovarian lymphatics, and it is even possible that in rare instances the Fallopian tube may become similarly infected. Lewers, at the Obstetrical Society in 1888, showed a specimen taken from a patient who died ten days after labour, in which inflammation had arisen between the layers of the right broad ligament and had spread into the ovary causing fibrinous adhesions and a small abscess.

In other cases, usually less rapid and certain in their course, the streptococcus invades the large veins which, filled with blood clot, are present in considerable numbers at the placental site. The invasion causes an extension of clotting into the communicating veins, and this thrombosis may be limited to the walls of the uterus itself or may spread along the uterine or ovarian veins between the layers of the broad ligaments. The thrombosis may thus extend along the ovarian veins as far as the inferior vena cava or the renal veins or along the uterine into the internal iliac vein and so into the common iliac and inferior cava. As a result portions of breaking-down blood clot may be carried to the lungs or to the other organs and tissues of the body, giving rise to pyæmia.

When the streptococcus spreads along the lymphatics or the veins the neighbouring cellular tissue participates more or less widely in the resulting inflammation. Thus the organism may give rise to peritonitis or to cellulitis but neither affection is, as a rule, pure, peritonitis being always accompanied by some degree of inflammation in the subperitoneal connective tissue, and cellulitis being generally accompanied by more or less exudation or adhesion in the overlying peritoneum. In some cases, apparently not very common, the streptococcus appears to spread, like the gonococcus, by continuity along the mucous surfaces.

Invasion by the gonococcus.—The gonococcus appears to be capable in some cases of penetrating deeply into the tissues or invading the blood-vessels or lymphatics, like the streptococcus, but its usual course is along the surface of the mucous membrane, giving rise to inflammation of very varying severity. In the body of the uterus it gives rise to endometritis, which may be glandular or interstitial or both. In the tube it causes endosalpingitis, which may not pass beyond the serous stage or may result in the production of copious pus; the muscular and peritoneal coats of the tube are involved in degree varying with the severity of the infection; they may swell and elongate so as to extend over the fimbriæ, which thus become folded in the lumen of the tube. The tube thus becomes closed in consequence of the inflammation of its walls—salpingitic closure. In the peritoneum the gonococcus sets up inflammation which is usually localised and may or may not be attended by the formation of pus. As a consequence peritonitic closure of the tube may take place.

Other germs.—Besides the streptococcus pyogenes and the gonococcus many other germs give rise to inflammation of the female pelvic organs, alone or in combination. Among the commonest are the staphylococcus pyogenes aureus and albus, the pneumococcus, and the bacillus aerogenes capsulatus. The bacterium coli commune is apt to spread rapidly through the tissues after the death of a patient so as to prevent the discovery at post-mortem examination of the organism that caused the fatal inflammation. It is, however, a frequent cause of infection during life; in the puerperium it is often found in symbiosis with the streptococcus and appears to render the prognosis graver. At other times it invades chronically inflamed organs from adherent intestine and it appears to be a not uncommon source of secondary infection of old tuberculous appendages.

THE REACTION OF THE TISSUES TO INVASION BY GERMS.

So far we have been devoting our attention to the doings of the invading germs. Let us now turn our attention to the efforts

that are made by the body to overcome the invasion. First, we have to remember that the infection is not a merely particulate one, but that the germs as a result of their vital biochemical processes, may act upon the tissues, and especially the fluids of the host, in at least three ways: (1) by withdrawing material for food; (2) by excreting substances that are useless or that have been partially used for food; and (3) by the manufacture of bodies definitely intended to be poisonous to the host. In some or all of these ways a toxic effect is exerted at first in the immediate vicinity of the germs, where the circulation becomes hurried in vessels which are first contracted but quickly become dilated. Soon the circulation becomes slower, until stasis occurs. As these changes proceed exudation takes place first of inflammatory lymph and then of leucocytes with a number of red corpuscles varying with the severity of the infection. The effusion of lymph gives rise in the solid tissues to a soft boggy swelling known as inflammatory œdema. Soon the lymph coagulates, fluid serum draining away in large quantities through the lymphatics and carrying with it toxins into the circulation, while a solid fibrinous network is deposited in the tissues giving rise to brawny hardness. When lymph is exuded into the peritoneal cavity the same clotting takes place, fibrin being deposited on the surface of the serous membrane and in the subperitoneal tissues, while the serum either at once drains away or collects in pockets bounded by adhesions of the adjacent viscera or by delicate transparent lamellæ of lymph; in this way an elastic or fluctuating tender swelling is formed.

The exudation of sero-fibrinous material forms the first line of defence against the invading germs. At the same time as it is forming the absorption of toxins from the marauders acts as a powerful message to the phagocytes, paralysing them in the worst cases so that they keep their distance; in other cases stimulating them to hurry in crowds to the field of danger. This effect of the invasion of germs is known as chemiotaxis, negative in the former grave cases, positive in the latter and more hopeful.

As phagocytes act the endothelial cells lining the capillary vessels and lymphatics, and the polymorphonuclear leucocytes which escape from the blood-vessels, and which in inflammation are produced in increasing numbers, chiefly by the bone marrow. At the scene of conflict the phagocytes collect in varying numbers, forming masses distributed at intervals along the vessels and through the tissues, and in some instances thick strata mixed with fibrinous coagulum on the invaded surface. The phagocytes take up and destroy the invading germs, or the germs penetrate and grow in them and ultimately cause their death. As the fight goes on a third barrier is erected by the formation of a layer of granulation tissue either on the injured surface or round the collections of dead leucocytes, necrotic tissue, and weakened or dead micro-organisms that result from the conflict.

The absorption into the circulation of poisons from the living organisms or from their dead bodies, together with the response made by the blood and tissues in the formation of antibodies of many kinds, gives rise to the most profound and varied effects on every organ and function of the body. The circulation is hurried; the pulse is more frequent and often at first bounding but soon becomes small and soft, until finally it may cease to be felt at the wrist; the blood is altered, the leucocytes being increased in number, while the red corpuscles diminish in number and quality and often alter in shape; the temperature of the body is usually raised but in the worst cases becomes subnormal and remains so until death ensues. The nervous system suffers, sleeplessness and delirium become common, and the whole neuromuscular tone of the body becomes profoundly altered, as shown by the powerlessness of the patient and the aspect of grave illness in the altered features. The gastro-intestinal, the hepatic and renal organs partake with the rest of the body in the widespread disturbances of function and structure.

The host may succumb or may be able at any point to put an end to further invasion. In the worst forms of puerperal infection death may result in from 24 to 48 hours; in such cases no inflammatory reaction may be observed; the walls of the uterus at the seat of invasion contain large numbers of germs, usually streptococci; and a few ounces of serum, generally blood-stained, are present in the peritoneal cavity and teem with the germs. In mild cases a moderate amount of sero-fibrinous exudation with few leucocytes may suffice to put an end to the invasion; or there may be a considerable fibrinous or fibrino-purulent effusion, as happens more especially in pneumococcal, gonococcal, and tuberculous infections. In other cases pus forms, often in large quantities, and may drain away from the producing surface or may be retained in irregular collections in the tissues or in hollow organs. In still other cases, especially in infections by the bacterium coli or by certain varieties of saprophytic germs, considerable destruction of the tissues takes place, giving rise to sloughs or gangrene, and to the formation in the organs, peritoneal cavity, or cellular tissue, of collections of stinking, discoloured, blood-stained putridity.

When the fight is over the injuries remain to be repaired and the débris to be removed from the field of battle. The repair and removal may be complete but are often incomplete, or take months or years for their accomplishment. Repair takes place by means of newly formed fibrous tissue and epithelium. Serous exudations are usually absorbed but in certain circumstances may remain for many years or gradually increase, as in the case of hydrosalpinx and of certain ovarian cysts resulting from perioöphoritis. Fibrinous deposits become absorbed, being replaced by fibrous adhesions which, in connexion with the more moveable abdominal organs, often become absorbed to a remarkable extent; in the neighbourhood of the less moveable uterus and appendages absorption appears to be less notable. Small collections of dead leucocytes and fibrin in the tissues undergo fatty degeneration and become absorbed. A larger collection of pus may continue to act as an irritant and keep up surrounding inflammation until it reaches a surface and makes its escape. Or such a collection may remain quiet sometimes for many years; in this case the locality of the pus is always a place of lowered resistance, and it is liable on slight causes—as the result of cold, of a blow, of a fall, or of over-exertion—to break out into renewed activity. In other cases a collection of old pus gives rise to a condition of general ill health, presumably by the long-continued absorption of small doses of toxin; in this way a condition of chronic neurasthenia may result or, as happens in some cases of old-standing pyosalpinx, the patient becomes prematurely aged, haggard, and worn-looking, and finally wastes and dies from exhaustion or as the result of a terminal infection.

CLASSIFICATION.

The most desirable classification of pelvic inflammations would be according to the germ which is present. In very many cases, however, it is not possible to make certain of the causative germ, more especially in the chronic cases, in which the microbes have died out and left no distinctive trace of their action, as in many cases of puerperal and gonorrhœal salpingitis. Moreover, the same germ may give rise in different patients, or in combinations in the same patient, to every degree of inflammation, serous, fibrinous, or purulent. From the clinical point of view it is customary and convenient to divide the cases into catarrhal or non-suppurative and suppurative, the latter including all cases where an amount of pus has been formed sufficient for detection by the unaided sight. In the catarrhal group are included many cases that really depend on invasion by known pathogenic organisms. This statement is based on the fact that the two groups shade imperceptibly into each other; on a comparison of the appendages in many so-called catarrhal cases with those of the less affected side in cases of suppuration; and on a consideration of the infinite variety in degree and extent of inflammations known to be caused by the same germ.

The non-suppurative group includes hydrosalpinx and a heterogeneous and not entirely satisfactory collection of cases of catarrhal salpingo-ovaritis. Among the catarrhal cases in my list are 42 in which salpingitis was the leading feature. The tubes presented all degrees of alterations: in some there were congestion and œdema of all the coats, usually with a small amount of accompanying pelvic peritonitis; in others great thickening and induration of the muscular and peritoneal coats with marked peritonitic changes; in others, again, there were universal adhesions to the surrounding structures with or without closure of the peritoneal ostium, but without distension of the lumen; and finally in two cases the process had resulted in atrophy, the tube and ovary forming a small, densely adherent, puckered mass, with shrunken broad ligament. The affection was bilateral in about two-thirds of the cases. Catarrhal salpingitis appears to favour the occurrence of tubal gestation, in many cases of which more or less extensive old fibrous adhesions are

observed about the pelvic peritoneum and appendages of the pregnant or opposite side; in a considerable proportion of the cases the tube on the opposite side to the pregnancy is converted into a hydrosalpinx. A second group included 18 cases in which various changes in the ovary were the salient features.

Corpus luteum cysts	6
Graafian cysts	3
Small cystic ovaries	4
Widespread adhesions of ovaries	5
Total	18

In this group the affection was bilateral in four and unilateral in 14. The Fallopian tubes showed evidence of catarrh in a few and were adherent in several more cases. In two of the cystic ovaries there were no adhesions near the fimbriated extremity, but firm old membranes bound the middle of the tube to the ovary and back of the broad ligament. In one of these the patient was just recovering from the fifth attack of acute pelvic peritonitis that had occurred in three and a half years, and in the other chronic illness and neurasthenia had existed for three years, in both patients since the last labour. The frequent coexistence of small Graafian and corpus luteum cysts with adhesions and other signs of old inflammation of the Fallopian tubes and pelvic peritoneum suggests a causal connexion between the two conditions, so that it seems preferable to include many of these small cysts with inflammations of the appendages rather than with neoplastic formations.

The Fallopian tube may become closed at its fimbriated extremity either as a consequence of salpingitis, the inflammatory swelling of the muscular and peritoneal coats extending over and invaginating the fimbriæ, or as a consequence of pelvic peritonitis, the fimbriæ becoming plastered down on to the ovary or other neighbouring surface. It is frequently impossible to decide by which of these methods a particular tube has become closed. In 73 instances where this was possible salpingitis had been the cause of the occlusion in 41 and peritonitis in 32. The two tubes of the same patient are not infrequently closed by different methods, one by salpingitis and the other by peritonitis. When the peritoneal ostium has become closed a tube may remain empty or may become the seat of a collection of fluids of different kinds, serum, pus, or blood.

Hydrosalpinx.—An occluded tube containing serous or watery fluid in greater amount than a drachm or two is called a hydrosalpinx. The amount of fluid varies from a few drachms to two or three pints and the shape of the resulting tumour varies according to the amount of distension, being usually club- or retort-shaped in small and moderate-sized cases and banana-shaped or globular in the larger ones. The fluid contained in the smaller varieties is serous and in the larger becomes thinner and more watery. No germs are present in film or culture. In some cases there are few or no adhesions, but, as a rule, fibrous adhesions about the original site of the peritoneal ostium bind this part of the sac firmly to the surface of the ovary, the back of the broad ligament, and the side and floor of the pelvis. Hydrosalpinx appears in its origin to be a result of catarrhal salpingitis and pelvic peritonitis, but when of long duration acquires the characters of a retention cyst. In five cases of double hydrosalpinx in which the accumulation of fluid amounted to eight or ten ounces or more the time taken in the accumulation had extended over many years, one containing three pints of fluid having probably existed for 18 years. A large proportion of my cases of hydrosalpinx have been found in operations undertaken for other conditions. In tubal pregnancy the tube on the opposite side is often converted into a hydrosalpinx (nine in 62 cases); hydrosalpinx was also found in association with uterine fibroids (six cases), with large fibroma of the ovary, and in a few cases with large ovarian cysts; it was also found with prolapse of the uterus in two cases and with pyosalpinx on the opposite side (five out of 109). Certain accidents are occasionally observed in connexion with hydrosalpinx. Axial rotation has occurred many times, and hæmorrhage into the contained fluid is not uncommon, especially in connexion with tubal pregnancy on the opposite side. As a rare occurrence the fluid escapes through the uterus in gushes from time to time—intermittent hydrosalpinx.

Pyosalpinx.—Pyosalpinx is the name given to a Fallopian tube closed at its peritoneal opening and containing pus. The condition usually arises as a consequence of inflammation spreading from the uterus directly into the tube, but may sometimes arise in peritonitis by extension of inflammation through the peritoneal ostium, as is frequently observed in tubercle and sometimes in puerperal cases. Occasionally pyosalpinx on one side co-exists with hydrosalpinx on the other. A pyosalpinx usually forms an extensively adherent thick-walled hard tumour, but occasionally (eight cases in 109) is less adherent and contains a large collection of pus in a relatively thin-walled cavity, thus to some extent resembling hydrosalpinx. The amount of adhesion varies greatly in different cases, but the omentum and some coils of small and large intestine are usually involved, in addition to the denser and more extensive adhesions to the ovary, back of the broad ligament, uterus, and floor of the pelvis. Among my cases, pyosalpinx was bilateral in 55 and unilateral with normal appendages on the opposite side in only 18.

Pyosalpinx.—

Bilateral in	55
With hydrosalpinx on opposite side	5
With salpingitis	20
Opposite appendages not noted	11
Opposite appendages normal	18
Total	109

Pyosalpinx is frequently complicated by ovarian abscess (17 in 109) and somewhat less frequently by collections of free pus in the peritoneal cavity (12 in 109). The contained pus is found to be sterile in a large proportion, usually more than half the cases. In 13 of those included in my list pus was sterile in four, saprophytes or bacterium coli were present in five, and streptococcus, staphylococcus, staphylococcus and pneumococcus, and the gonococcus in one each.

The following was the result of bacteriological examination:—

Bacteriology of Pyosalpinx.

Sterile	4
Streptococcus	1
Staphylococcus albus	1
Staphylococcus and pneumococcus	1
Gonococcus	1
Saprophytes	5
Total	13

In addition to abscess of the ovary and intraperitoneal abscess many other complications occur in cases of pyosalpinx. Hæmorrhage into the contained pus is not infrequent and ovarian hæmorrhages are common. Rupture of a pyosalpinx not rarely happens as the result of straining or over-exertion, as, for instance, in lifting weights. In other instances rupture occurs as the result of rough examinations or manipulations, as, for instance, in the forcible reduction of a retroverted uterus or during the enucleation of a submucous fibroid. Rarely axial rotation of a pyosalpinx has been observed. Sometimes cicatricial contraction of the tissues at the base of a pyosalpinx leads to compression of the ureter with its consequences, dilatation and hydronephrosis, and tendency to suppuration of the kidney. In association with tubal gestation on the opposite side pyosalpinx is occasionally found. I have myself operated on one such case and have assisted in two others, one complicated by tubo-ovarian abscess and the other by an acute gonorrhœal salpingitis. Complications on the side of the uterus are very common, more particularly in the form of chronic metritis and endometritis, the remains in many cases of the original infection from which the tube became secondarily infected. Displacements of the uterus are also common and prolapse was present in four of my cases. Fibroids are not uncommonly associated with pyosalpinx, which adds a grave risk to the operation of hysterectomy.

Pyosalpinx is less frequently seen in cases of carcinoma of the cervix. Pregnancy may supervene in a patient with pyosalpinx on one side, as happened in one of my cases, where rupture of the pyosalpinx and fatal peritonitis occurred at the sixth month.

Ovarian suppuration.—Abscess of the ovary may arise in a corpus luteum or in a Graafian follicle, or suppuration may be disseminated irregularly through the stroma of the organ. The exciting micro-organisms reach the ovary in at least two ways: the peritoneal surface may be infected by pus escaping from the open end of the Fallopian tube or forming in the pelvic peritoneum, or pyogenic organisms may extend outwards through the wall of the uterus and along the lymphatics to gain an entrance through the hilum of the

ovary. The relation of the Fallopian tube to the suppurating ovary in my cases shows that, at any rate in the subacute and chronic cases, by far the most frequent route of infection is by way of the tube.

When infection takes place from the peritoneal surface a corpus luteum is most frequently the seat of suppuration. In all my cases of suppurating ovary, with one exception, the patient was parous, the interval between the last pregnancy and the date of operation varying from three months to 31 years. In 12 of the total number of ovarian abscess cases operation was undertaken in eight months or less after parturition. Of seven cases in which a bacteriological examination was made, in four the pus was found to be sterile, while in the other three it contained streptococcus, gonococcus, and staphylococcus pyogenes aureus, each in one case.

Excluding from consideration suppuration of large ovarian cysts, I have operated in 31 cases of suppuration of the ovary, including one case of tuberculous suppuration of a solitary ovarian cyst of the size of a duck's egg. In 18 of the remaining 30 cases suppuration had taken place in a corpus luteum and in 12 apparently in Graafian follicles, the abscess in these cases being solitary in nine and multiple in three. In one of the 30 cases the ovary was removed through a posterior vaginal incision and the Fallopian tube was ascertained at a subsequent abdominal section to be inflamed and densely adherent at its outer end. In the whole of the rest of the cases the Fallopian tube showed signs of inflammation, pyosalpinx being present in 17, while in the other 12 the tubes were inflamed without the production of obvious pus. In another case not included in this group the process of labour caused rupture of a moderate-sized dermoid ovarian cyst on the right side and at the same time rupture of an old pyosalpinx on the left side. The patient was admitted in a desperate state of septic peritonitis and died after operation from perforation of the sigmoid flexure where this had been adherent to the pyosalpinx.

Tuberculous salpingitis.—The tubercle bacillus rarely gains access to the Fallopian tube and pelvic peritoneum by way of the uterus and vagina. The usual routes are by way of the peritoneum or through the blood stream. The germs may be absorbed from the digestive or respiratory tracts and lodge in the bronchial, mediastinal, or mesenteric glands, whence at a later period they may be carried to distant organs and among others to the Fallopian tube or ovary. From the peritoneal cavity the tubes are frequently secondarily infected. Commonly enough miliary tubercles are seen scattered over the peritoneal covering of the tubes and broad ligaments, and fluid exudations in the peritoneal cavity convey germs through the open ostia of the tubes. Tuberculous peritonitis in the female is associated with salpingitis in 50 per cent. of the cases, and in most of these the tube is affected secondarily from the peritoneum. The genital tract may also be invaded by extension from other tuberculous organs, as, for instance, from the cæcum, rectum, or base of the bladder. When the generative organs are affected by tubercle the seat of the disease is by far most frequent in the Fallopian tubes (90 per cent.), and this appears to be due to the direct communication between the interior of the tube and the peritoneal cavity. Where the uterus is tuberculous, in the majority of cases the infection proceeds from the tubes by direct extension.

Of 20 patients operated upon by me for tuberculous peritonitis, in 11 it was ascertained that the Fallopian tubes were affected, in several of them the ovary also taking part in the disease. In three cases as observed after removal of the uterus the endometrium was extensively involved.

Hæmorrhages in connexion with salpingitis.—Effusions of blood are frequently observed in connexion with chronic inflammations of the uterine appendages. In hydrosalpinx, especially when it coexists with pregnancy of the opposite tube, the fluid is usually found more or less deeply tinged with blood. In pyosalpinx, also, hæmorrhage may take place into the wall or contents (four cases), or may be found in the corresponding ovary (21 in 109 cases). The most frequent situation of the ovarian hæmorrhage in these cases is in connexion with the follicles, which are often seen surrounded by a red border one-sixteenth of an inch or so in thickness, due to hæmorrhage in the tunica interna. The contents of such follicles may be clear, but more frequently consist of clotted blood. Less frequently hæmorrhage occurs in connexion with corpora lutea either in the interior or, as sometimes happens, forming a broad band round the periphery. Irregular interstitial hæmorrhages are less common. Similar ovarian hæmorrhages occur, but less often, in connexion with non-suppurative affections of the tubes; they were present in five out of 41 cases of catarrhal salpingitis. Occasionally as the result of severe salpingitis hæmorrhage may be more extensive and escape into the peritoneal cavity to form a hæmatocele. Such cases appear to be far from common and great care has to be taken to exclude the possibility that a tubal gestation has been the cause of the condition. I have only seen two cases of pelvic hæmatocele in which a careful examination made it highly probable that the originating cause was salpingitis. In one of these a married sterile patient, aged 39 years, had been losing flesh for 12 months and was just recovering from her third attack of pelvic peritonitis. There were marked catarrhal salpingitis on both sides and recent acute pelvic peritonitis. The other case occurred in a patient, aged 28 years, also sterile, who had had repeated attacks of inflammation for two years, and whose right tube was closed by peritonitic adhesions in which there were yellowish caseous collections, probably tuberculous.

Hæmatoma of the ovary.—In 11 other cases grouped as inflammatory, I have seen hæmatoma of small and moderate size in the ovary of both sides in five and of one side in six. All the patients complained of severe and long-continued pains, most of them with acute exacerbations resembling attacks of pelvic peritonitis. In five of the cases the ovaries were densely adherent, although in two out of the five the tube was free and apparently normal. In two other cases, making four in all, the tubes appeared to be normal, and in the other seven the tubes were either catarrhal or adherent; in one case there was recent acute pelvic peritonitis. In all the 11 cases the blood cyst in the ovary appeared to be the main cause of the patient's illness. The class of patient in whom ovarian hæmatomata were observed differed markedly from those in whom the other forms of inflammation are observed, in that four of them were single and five were married nulliparæ; the other two patients had each borne one child, one nine and the other 22 years before operation; the age of the patients varied from 19 to 39 years. Three of the five married nulliparæ were probably gonorrhœal.

BACTERIOLOGY.

In 12 recent puerperal infections micro-organisms were found in every case, the streptococcus being present in ten, in four in pure culture and in the other six in association with staphylococcus pyogenes aureus and other varieties of germs. In 43 cases of subacute and chronic suppurative pelvic inflammations no germs were present on films or culture in ten. Streptococcus grew in pure culture in ten, and in association with other germs in five. In 13 cases various forms of saprophytes were found, and in the remaining cases staphylococcus aureus and albus, pneumococcus and bacterium coli commune were observed.

Bacteriology of Recent Puerperal Infections.

Streptococcus	4
Streptococcus with staphylococcus aureus	2
Streptococcus with other forms	4
Small stout bacilli	1
Saprophytes	1
Total	12

Bacteriology of Cases of Subacute and Chronic Suppurative Pelvic Inflammations.

Sterile	10
Streptococcus in pure culture	10
Streptococcus with other germs	5
Staphylococcus aureus	2
Staphylococcus albus	1
Staphylococcus with pneumococcus	1
Bacterium coli	1
Various forms of saprophytes	13
Total	43

INCIDENCE.

The age of the patients varied from 17 to 54 years. Only seven were 20 years or less and of them three had tuberculous appendages, two had inflammations originating in childbed, and one gonorrhœa, while in the seventh case, in a girl, aged 18 years, a fœtid intraperitoneal abscess of considerable extent and obscure origin suddenly made its appearance and rapidly increased; rapid recovery followed upon a posterior vaginal incision and the diagnosis therefore remained pelvic abscess simply. 11 of the patients were 46 years of age and

upwards and of these five were 50 years or more; in each of the five a suppurative condition had probably existed for from 11 to 31 years and had then given rise to acute symptoms demanding operation. All the other 242 patients, more than 93 per cent., were between 21 and 45 years old—that is to say, at the age when they should have been at their best as active and useful members of society.

Among the 260 cases suffering from pelvic inflammations were 29 single and nulliparous patients. Such patients suffer from tuberculous affections with much greater relative frequency than parous women; of 13 patients with tuberculous affections, including one of hydrosalpinx and one with tuberculous suppurating ovary, nine were single and two more sterile. Among the patients suffering with ovarian hæmatoma single and sterile women also formed the great majority; of 11 such patients four were single and five married but nulliparous women. In the other groups of cases single women are relatively much less frequently found. Of 109 cases of pyosalpinx only eight occurred in single women; of the eight, four were probably gonorrhœal and two were due to secondary infection by saprophytes of old tuberculous appendages. The origin of the pyosalpinx in the other two was obscure. Of 29 patients with intra-peritoneal pelvic abscess five were single and nulliparous; in one of these the abscess was due to suppurating silk ligatures remaining after a laparotomy performed elsewhere, one was due to suppuration of a hæmatocele two years after supravaginal hysterectomy had been performed elsewhere, and the cause of the other three was not satisfactorily made out. 21 out of 97 patients suffering with non-suppurating inflammations and 34 out of 163 with suppurating conditions were sterile married women. Satisfactory clinical evidence of gonorrhœa was obtained in 48 cases. In two of the non-suppurative cases and seven of pyosalpinx the patients were syphilitic.

Table showing Incidence of Pelvic Inflammations.

—	Single.	Sterile.	Pluriparous. Last pregnancy.		Total.
			Abortion	Term.	
Salpingitis	3*	7	7	25	42
Ovaritis and small cysts	0	3	5	10	18
Ovarian hæmatoma ...	4	5	0	2	11
Hydrosalpinx	1†	6	7	12	26‡
Totals	8	21	19	49	97
Pyosalpinx, 17 with suppurating ovary, 12 with pelvic abscess ...	8	26	15	60	109
Suppurating ovary without pyosalpinx	1†	1	0	12	14
Pelvic abscess	5	5	6	13	29
Tuberculous appendages	7	2	0	2	11
Totals	21	34	21	87	163

* One after pelvic abscess. † Tuberculous.
‡ Including three in which operation was undertaken for other conditions, not including tubal gestation.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—Mr. J. Dundon, F.R.C.S. Eng., and Mr. L. G. Gunn, F.R.C.S. Irel., have been elected additional examiners in surgery.

NEW CONVALESCENT HOMES.—A convalescent home scheme has long been the desire of the friends of the Manchester and Salford Hospital Saturday Fund and at length it is in operation. There is a temporary home for women at Arnside on Morecambe Bay and the first inmates were received some weeks ago. At present there is accommodation for 30 patients, but the house can, if necessary, be much enlarged. The men's home, Plas Mariender, at Penmaenmawr, was opened towards the end of May. Here there is accommodation for between 30 and 40 men, but extensions are contemplated in the future. Both at Arnside and Penmaenmawr the patients have given warm expression to their appreciation of the comforts of their pleasant homes.

The Harben Lectures

ON

EXPERIMENTAL RESEARCHES ON SPECIFIC THERAPEUTICS.

Delivered at 20, Hanover-square, London, under the auspices of the Royal Institute of Public Health,

BY PROFESSOR PAUL EHRLICH, M.D.,
DIRECTOR OF THE KÖNIGLICHES INSTITUT FÜR EXPERIMENTELLE THERAPIE, FRANKFORT.

LECTURE I.

Delivered on June 5th.

IMMUNITY WITH ESPECIAL REFERENCE TO THE RELATIONS EXISTING BETWEEN THE DISTRIBUTION AND ACTION OF ANTIGENS.

GENTLEMEN,—There can be no doubt that the three great fields of knowledge—pharmacology, toxicology, and therapeutics—in their theoretical and practical aspects form the most important branches of medicine. Pharmacology has but just emerged from the stage of pure observation and description. One was content formerly with describing the physiological effects and the secondary action of substances which act pharmaco-dynamically and the changes which they bring about in the organs and tissues of the body from the morphological standpoint. It is to the great influence which chemistry exerted on medical science that we owe a change in this state of affairs. It was about the middle of the last century that the influence made itself specially felt. But therapeutics were chiefly symptomatic, and so it is in many cases to-day. The features of an etiological treatment, directed against the causes and the seat of disease, were not satisfactorily brought out by merely insisting on the relationship which existed between the constitution of drugs and their action; the fact was overlooked that between chemical constitution and pharmacological action another and important bond of union exists which influences the relations between the pharmaco-dynamic agent and the substance on which it is intended to act. This bond of union is the mode of distribution and represents the sum of the peculiarities of the cells and tissues and of the drug.

I may mention that from the beginning, as the result of my studies on dyes, I have endeavoured to point out the necessity of the study of localisation—in a word, to give pharmacology an etiological and therapeutic tendency. Great must be our admiration for the powers of nature, in view of the fact that the living organism, when it takes upon itself the production of curative agents, does this in such a manner that they form ideal etiological remedies.

The protective substances of the blood, regarding which I shall speak to-day, completely fulfil the requirements of the case, and the study of antigens and antibodies may form the basis of the relationships which must exist between constitution, distribution, and action in order that our treatment may be successful. The discovery of antitoxins by von Behring, fundamental in itself, opened to pharmacology and therapeutics this new field: antitoxins and antibacterial substances strike only those objects for whose destruction they have been produced by the organism. I call these substances monotropic; the monotropism of these antibodies is characterised by the fact that they are bacteriotropic or etiotropic in general—i.e., they are directed against bacteria or against those products of their metabolism (toxins) which cause disease. The definition of monotropism is, therefore, here overlapped by that of specificity which, in the language of the study of immunity, characterises monotropic action. As the cause of this specificity we must note, in my opinion, only the effect of chemical relations which exist between the agents of infection or their products and the antibodies.

From the very beginning my standpoint has been that all those substances which have the power to bring about the creation of antibodies, I mean the antigens, must be entirely separated from the other pharmaco-dynamical and poisonous substances as a matter of principle. That difference I consider to be of the greatest importance, and this is further borne out by the fact that in spite of the most strenuous endeavours we have been unable to find any antigen of a known chemical constitution. I believe that in the

absorption of antigen-like substances by the body we have a phenomenon which bears a close resemblance to the assimilation of nutritive substances. In the case of the other poisonous substances we have more simple phenomena as causes of localisation, but, in my opinion, the powers which influence the distribution of toxins and kindred substances belong to the domain of chemical synthesis. It seems to me that the ever-increasing endeavour to build causal relationships on the ground of purely formal analogies is but little fitted to advance our knowledge. The condition therefore necessary for reaction is the presence of two groups, whose chemical relationship is of the closest and whose interaction is therefore the condition of their union. This axiom as to union is the basis of my side-chain theory.

Let us consider in the first place the action of comparatively simple toxins, which differ in the phenomena of intoxication to which they give rise; the action of the diphtheria toxin, for example, is absolutely different from that of the tetanus toxin. I designate that group of the toxin molecule which is the cause of its peculiar poisonous action as its toxophoric group, but the presence of this toxophoric group is not of itself sufficient to bring about the poisonous action, for whilst the guinea-pig is exceedingly sensitive to the tetanus toxin the rabbit possesses a relative immunity. The cause of such difference we must therefore attribute to the distribution or localisation of the toxin. When the poison and the sensitive organs do not come in contact or when the latter are not present, the action remains absent. If we assume those peculiarities of the toxins which cause their distribution to be localised in a special group of the toxin molecule and the power of the organs and tissues to react with the toxin to be localised in special atom groups of the protoplasm, we arrive at the basis of my side-chain theory.

The distributive group of the toxins I call the "haptophoric group," and the corresponding chemical organs of the protoplasms the "receptors." The relations between the receptors and the haptophoric groups represent the conditions under which distribution takes place. The toxic action can occur only when there are present receptors fitted to anchor the toxins. In order that the poisonous action may take place, we must postulate not only the presence of receptors, but that they should be present in positions favourable to the toxic action being brought about. When both the receptors and the organs sensitive to the action of the poison are present, the conditions for infection are naturally most favourable; then distribution takes place at once, the poison circulating until it reaches the sensitive cell. The localisation of the receptors is, then, of great moment for the distribution of toxin in the organism, and consequently for its sensitiveness to poisonous action. One may therefore, in general, distinguish four different types of distribution: 1. In which the receptors are not present, the animal possessing natural immunity (the formation of antibodies cannot take place). 2. In which receptors are present, but only in those organs on which the poison does not act, or in organs of lesser importance; here, again, the animal possesses natural immunity (antibodies may be formed, and immunisation is easily carried out). 3. In which the receptors are distributed over various parts of the organism, and are present in the organs which are sensitive to the action of the poison. Here a relative immunity is present, and infection depends chiefly upon the manner in which the poison is introduced (the conditions for antibody formation are present and those for immunisation are more or less favourable). 4. In which the receptors are present only in the organs which are sensitive to the poison; in this class the organism is exceedingly sensitive to the poison (antibody formation is possible, but immunisation is difficult to carry out and must be begun with small doses or with weakened poisons).

I think that this systematic division clearly shows the possibilities of distribution and localisation as well as the conditions under which a poisonous action can take place and what must be the aim of antitoxic treatment—viz., the alteration of the natural conditions of distribution and interference with the action of the poison. In my view, which is based on extensive experience in experimental research, the antitoxins are purely and simply receptors fitted for union with the poisons which have entered the circulation.

I have always held the view that the antitoxins do not in any way destroy the toxin, but that they merely limit its sphere of action by their union with it. When we speak of monotropism or specificity in the case of antigens and antibodies, we of course mean only the chemical relations between haptophoric groups and receptors. For example, toxins may be specific and yet act upon the cells of all species of animals if the toxin-anchoring receptors be widespread amongst them. The other extreme we find in those cases in which the organism itself reacts to elements introduced into it and forms substances, antibodies, which act on the corresponding antigens; we have here to do with antibodies which are specifically monotropic, just as the antitoxins are, and which affect only those substances to which they owe their origin. The only difference is that the antitoxins act by localisation alone; when they have anchored the toxins their work is done. The other antibodies act, it is true, at first in a similar way on the substances sensitive to them; but they have a further action on the anchored substances, an action which is either direct, as in those cases (agglutinins and precipitins) in which, like the toxins, they have special ergophoric groups, or indirect in that the union is merely preliminary to their further action on their prey. Thus one class of these antibodies has the power of rendering the cells assimilable by phagocytes (opsonins, bacteriotropic substances); another class (amboceptors) has the power of rendering the cells liable to the action of toxin-like constituents of the blood serum (complements). In the latter case by the simultaneous action of two substances a destructive effect is produced. These substances are also called cytotoxins. They are of special importance in considering the question of the relations between constitution, distribution, and action, because the differentiation between haptophoric and toxophoric groups exists in their case, distribution and toxic effect being dependent upon two different substances, the more stable amboceptor controlling the distribution, and the labile complement the toxic effect. The complement has no direct relations with the cell, on which it acts through the medium of the amboceptor. It is a normal constituent of the blood serum the concentration of which undergoes no change as a result of the process of immunisation. On the other hand, the amboceptor is a new formation brought about by immunisation, and, on the ground of the principle already admitted, it must appear probable that the amboceptor, like the antitoxins, possesses a marked monotropism for the corresponding antigen. It is the amboceptor alone that stands in direct relation to the cell and is quantitatively anchored by it. This anchoring of the amboceptor takes place with a maximum of chemical energy—it occurs even at 0° C. The union of the amboceptor and the cell has no harmful results on the latter. On the other hand, the amboceptor-laden cell is exposed to the action of the complement, which by itself is harmless. As regards complements, what I have said about toxins holds true; they may be regarded as toxin-like substances which possess a haptophoric group and a toxophoric group which I call the "zymotoxic" group. That these groups are independent of each other is well seen in the case of modified complement—"complementoïd," as numerous test-tube experiments have proved. The real state of affairs, which has been thoroughly investigated, especially in the case of hæmolysins, is this: the intact erythrocytes do not unite with the complement which, however, is anchored by the complex of erythrocyte and amboceptor. The amboceptor and the complement stand in direct relationship to one another. I think that the great majority of my colleagues accept the amboceptor theory. It is true that the distributive relation of the complement in the presence of the amboceptor is not that of maximum chemical affinity; indeed, we have, on the contrary, as a rule an exceedingly loose relationship which perhaps corresponds to a reversible reaction. It is owing to the fact that the complement is free, or only loosely united to the amboceptors in the circulation, that at a given moment it is ready for use. The maximum stimulus to action is rendered possible by the anchoring of the amboceptor to the erythrocyte, the avidity of the latter toward the complement being thus increased. This increase of avidity consists in the chemical affinity of the complementophile group for the complement being carried to its maximum, and represents the gist of our knowledge of the action of the amboceptor. The amboceptor, therefore, exercises the important function of bringing about a specific modification of those conditions

existing in the organism which determine the distribution of complements, and which otherwise are not very evident. It causes the complements to become monotropic by its union with the given substance. The complements are thus localised by amboceptors which have previously become united to the substance—cell or otherwise. At the same time this action represents a purposive saving. This is evident from the fact that only in case of need the amboceptor becomes able to combine with the complement, and from the fact that complementoids which, by reason of having lost the zymotoxic group, become incapable of action have at the same time lost some of their avidity for the amboceptor. By this change in the distributive quality of the complement that is associated with the formation of complementoid the sphere of action of the amboceptor is considerably extended. The increase of avidity, which forms the basis of the mode of action of the amboceptor, not only governs the phenomena which occur in the organism, but, since it lends itself to test-tube experiments, also opens up a wide field for serum diagnosis. If we remember that the amboceptors, by their union with the sensitive substances—cells or dissolved bodies—exert such a marked localising influence on the complements, it is evident that in a mixture of an amboceptor and its corresponding antigen, if the presence of the one constituent of the mixture be known, that of the other can be proved by the occurrence of the phenomena of complement-fixation. The peculiar power of the amboceptor to fix a large number of complements is not to be wondered at when we remember the biological function of the amboceptor. This I hold to be, in physiological life, that of seizing upon and elaborating nutritive substances. By its cytophile group the amboceptor is enabled to combine with substances of the most varied kinds provided that they possess fitting receptors. We have, then, merely an increase of purposive function in the fact that the amboceptor is furnished with a host of complementophile groups which enable the most varied kinds of complement to act—it may be simultaneously. This is the consequence of the multiceptive nature of the amboceptor. As regards increase of avidity, the fact that the anchoring of the amboceptor to the cell causes the avidity for the complement to be increased in no way precludes an increase of the avidity of the amboceptor for the cell taking place in consequence of the anchoring of the complement. Besides a few normal amboceptors of the blood serum in which this is observed we find that it occurs in a marked degree in the case of those poisons which act by the united action of two components, the part of the complement being played by lecithin. This power of forming lecithids has been studied in the case of snake and scorpion poisons and bee poison. It is a special characteristic of the formation of lecithids that out of two absolutely non-poisonous substances a powerful poison is formed, which in its biological and physico-chemical reactions differs markedly from the two substances from which it sprang, and does not contain lecithin as such, one fatty-acid residue being removed during the process of formation. I believe that this possibility of the transformation of certain substances, inactive in themselves, from albuminoids to lipoids of powerful action—a transformation which has been proved to occur in the case of snake poisons—plays a prominent part in the processes of the living body and is of importance for distribution and action.

The study of the lecithids from the chemical point of view has shown that in them we have a field in which the phenomena of immunity and those of pure chemistry meet and the hope can therefore be cherished that we may thus obtain a nearer insight into the chemical peculiarities of antigens and antibodies. As to the biological factor in the formation of antibodies, it has been shown that a part of the process takes place in the obscure province of the physiology of stimulation. The receptors of the cell protoplasm are the seat of the process and their regeneration and elimination are the consequence of this. Supposing these processes to occur in the normal organism and to be merely intensified in the case of active immunisation it is possible to understand that antibodies of the most varied kinds may exist in the serum of the normal organism and also to comprehend the processes of immunity by viewing them from the standpoint of the physiology of nutrition and metabolism. One may already by simple means differentiate the multitude of serum substances into antitoxins, amboceptors, agglutinins, precipitins, opsonins, complements, ferments, antiferments, &c., but deeper study of the subject shows that each of these divisions in its turn consists of a multitude of functionally different components, and thus a pluralistic view of the observed phenomena is the only justifiable one. It is the principle of distribution which governs the processes resulting in active immunisation.

The antibodies—the protective substances in the serum—all possess the power of reacting, with maximum chemical energy, with their corresponding antigen, as, e.g., in the anchoring of bacterial cells. This anchoring is a necessary preliminary for further reaction, which may be of the most varied kind. We are acquainted with a number of such haptins, of which the following are examples: (1) the agglutinins, which cause clumping of the cells; (2) the amboceptors, which play the part of carriers in the action of the complement; (3) the opsonins, which render bacteria liable to be seized by the phagocytes, also those haptins which are directed against the contents, or metabolic products, of bacteria; (4) the antitoxins; (5) the anti-endotoxins, which are directed against the endotoxins; (6) the precipitins; and (7) the antiferments, which are directed against certain ferments of the bacterial cells—e.g., pyocyanase. There is no doubt, however, that many more haptins exist.

In order to have an idea of the extreme diversity of the phenomena which cause immunity one must look for other substances whose functions are those which characterise the haptins—the substances, for example, which prevent cell division or those which combat the biological adaptation of bacteria. The possibilities which I have here indicated appear to be limitless and the need for study in this direction is evident. The immunity of an animal is, therefore, explained as being due to the great energy of the cells of its body which are able to appropriate nutritious substances for themselves and in so doing to deprive parasites of them. The opposite condition must be due to a certain disposing influence and immunity of the parasites must be a condition of the cause of infectivity. The bacterial cells may in the same way be immune against haptin substances and may withstand the action of the serum. Thus there exist unstable relations between immunity and infection and between parasite and host, relations which lead to the phenomena of reversible action and still have to be studied.

A Lecture

ON

THE TREATMENT OF CARDIAC DILATATION.

Delivered at the London School of Clinical Medicine on May 6th, 1907,

BY SIR DYCE DUCKWORTH, M.D. EDIN., LL.D.,

CONSULTING PHYSICIAN SO ST. BARTHOLOMEW'S HOSPITAL; SENIOR PHYSICIAN TO THE SEAMEN'S HOSPITAL, GREENWICH.

GENTLEMEN,—In discussing this subject with you to-day I am not about to enter at any length into the pathology of such conditions as tend to induce dilatation of the chambers of the heart. We may note in passing that single cavities may be thus affected or more especially involved in a general dilatation. To mention instances—the right ventricle in cases of pulmonary emphysema, the left auricle in cases of mitral stenosis. Again, it may be stated that some measure of hypertrophy is common in dilated hearts, having thus been induced by some valvular defect, long antecedent perhaps, or there may be actual thinning of the walls, which may be flabby or fatty, or yet again altered by fibroid substitution. Any degree of dilatation is an indication of debility. The special significance of it is an incapacity for complete or adequate expulsion of the contents of the involved cavities.

In the case of conjoined hypertrophy with dilatation we are in face of a commencing failure and incompetency of function. Hitherto there have been compensation by overgrowth and increased power to overcome obstruction; now this power is lessening and difficulties with

various symptoms announce themselves. The patient with adequate compensation has usually no complaints; directly an inadequacy of propulsive power sets in he seeks relief and is aware that his heart is in difficulties. He has symptoms which are readily recognised; these depend mainly on retention of blood in the several cavities which encourages stretching of the cavities and induces a sense of weight and oppression at the præcordia, dyspnœa, and other symptoms. Physical examination reveals an enlarged area of cardiac dulness. The apex beat may be imperceptible, while the impulse of the right ventricle may be appreciable. The latter is not a bad sign, indicating some reserve of power. The pulse is usually irregular and of low tension. The arteries may be hard and dilated if there has been long antecedent high tension now passed off. Or the pulse may be irregular only after some exertion; a rapid pulse is of ill omen. Auscultation may reveal a mitral systolic murmur due to reflux, or the first sound may be short and loud, the aortic second feeble, with a long first pause. If the sounds are heard close together, with a shortening of the systolic pause, the condition is more serious.

The symptoms are numerous in cases of cardiac dilatation. The brain, being imperfectly bathed in blood, gives rise to languor, irritability, and despondency, often to drowsiness. Syncopal attacks may occur with loss of consciousness. Sleep is disturbed and digestion is imperfect with flatulency. The liver becomes engorged and tumid and the urine is apt to be scanty, albuminous, and loaded with crimson lithates. Dyspnœa is readily induced; œdema of the legs gradually supervenes and they become cold and dusky. Ascites, pleural effusion, pulmonary œdema, and general anasarca may be present. Recumbency becomes impossible and insomnia may be distressing, or the snatches of sleep disturbed by frightful dreams. I have here drawn a picture of the graver degrees of cardiac dilatation such as we frequently meet with in hospital practice. We may meet with minor degrees of it. Such cases are always a source of anxiety, but, as we shall find, a good deal may be done for them by judicious treatment founded on a careful appreciation of the conditions present in each particular case.

Now the main indications for treatment are first to promote the power of the heart's walls, and secondly to relieve the venous engorgement which has arisen from their loss of function. The more pressing duty is to unload the venous system. The question of depletion by letting blood has then first to be considered, and the general condition of the patient as to strength, age, and history of the cardiac ailment will determine our action in this respect. It is seldom that we can be justified in a general venesection from the arm, unless it be in small amount, say, to the extent of six or eight ounces. We shall oftener do well to limit our direct bleeding to the application of six or eight leeches to the epigastric or hepatic region. This may not secure more than two or three ounces of blood but the process of leeching now so much neglected, is a source of more relief and comfort than the mere amount of depletion would indicate. There is a marked counter-irritant action induced by leeching which has, doubtless, some beneficial effect. Certainly the relief thus afforded is very marked, the pain, tumidity, and oppression being greatly dispelled. A poultice should be placed over the leech bites and while this encourages further depletion it induces a favourable hyperæmia over a large surface. We may next try to relieve the hepatic congestion further by such purgation as the particular patient can bear with impunity and in this way help to relieve the general systemic venous engorgement. By far the best purgative here is mercury in some form. To urge bleeding and the use of mercury in these days may appear to some of you as a revival of old and effete practices. We are supposed, especially by the public, to have abolished all such methods now and to employ simpler and better ones. Such treatment is thought to be weakening and blood to be too precious to shed in the twentieth century. In my opinion, this is nonsense, and not to employ such measures is to be void of all wise clinical instinct and to be deprived of the only real methods of affording relief to our patients. It is hard enough now to implant this knowledge in the mind of modern students. Their minds are so full of imparted ideas about toxins, microbes, opsonic indices, neurons, and extra-pharmacopœial remedies that there is no room to hold precious knowledge of approved clinical methods and of the virtues of pharmacopœial drugs, and with all this modern development we are fast losing the old-fashioned *art* of medicine and have too little teaching of it in the schools. The action of mercury is not merely a purgative one but it is the best agent for lowering the resistance so commonly existing in these cases in the arterioles and capillaries and thereby relieving the labour of the cardiac walls which is exhausting them. The sources of this obstruction probably lie in the liver or alimentary canal and are cleared away by mercurial influence. Calomel, blue pill, or grey powder (with colocynth and henbane) in doses of from two to five grains should be given at once overnight, followed by a saline aperient in the morning, and repeated for one or two nights, subsequently being taken twice or thrice a week according to the effect produced. You notice that I make no mention so far of digitalis or other tonic for the labouring heart. These are not the primary needs. Relief will be already largely afforded in all directions by the treatment and we may then begin with Baillie's well-known combination of blue pill, squills, and digitalis. By day we may give tincture of digitalis with nux vomica, ammonia, and compound spirit of ether in mixture.

The dietary is important. It should be rather dry if it can be borne. Small feeds every three or four hours with solid or semi-solid food are best. Much fluid with the meal is objectionable, oppressing the stomach and the heart. Between meals the patient may take coffee, if possible, and fresh lemonade containing bi-tartrate of potassium one drachm to the pint. This is especially useful in removing any dropsy. If solid food is loathed we may use beef essence or jelly, or fish, pounded meats, scraped ham or chicken, or milky pudding in small quantities. Alcohol is commonly necessary, old brandy being the best form in which to give it. It is seldom necessary to exceed two or four ounces in the 24 hours. Two ounces of cold or hot water or of some alkaline water may be given at intervals if there is much thirst and a larger quantity of hot water early in the morning is useful to wash out the alimentary canal and to promote a more free diuresis which should be looked for. When the heart is relieved we generally find a more free urinary flow to occur. Later we may employ iron with strychnine or phosphoric acid with nux vomica as appropriate tonics. Ascites, if urgent, may demand tapping, and extreme œdema of the legs, if it does not yield to the remedies just mentioned, must be dealt with by Southey's trocar, careful aseptic precautions being always observed. It may take several hours to relieve the abdomen by this method but it is the safest one to adopt. There is often difficulty in securing adequate rest and sleep at night. Recumbency is seldom possible and if propping up by pillows is not adequate to secure easy respiration the patient is better allowed to sit in a properly adapted chair with support for the arms and a rest arranged for the head to lean somewhat forward. A full dose of compound spirit of ether, with 10 or 15 minims of a solution of morphine hydrochloride, may prove very soothing in the worst forms of restlessness and insomnia with dyspnœa.

Under the influence of these measures it is often remarkable how much improvement may be wrought in these distressing conditions. Yet the patient is always in danger of relapses unless he is extremely prudent in all particulars. In hospital patients we see the worst symptoms in such cases. They secure marked relief, but a return to work or exposure to unwholesome environment and the varieties of the *res angusta* of the poor soon induce a recurrence of the original symptoms and they return to die. For the better placed in society we may hope for a happier outcome with continued skilled supervision of their daily lives. But in them a time arrives when the measures we have enjoined fail to bring relief—the myocardium is worn out, recuperation is at an end, and a fatal issue is inevitable.

The moral of cardiac dilatation lies far back in the history of these cases. Prevention is better than cure. By adequate treatment of the disease which is largely productive of this state—rheumatic fever—and by the adoption of habits which avert premature disease in the valvular structures of the heart and the arterial tunics generally we can alone stave off the ultimate outcome of the progressive failure and inadequacy of function in the vascular system which lead up to the condition we have been considering to-day. Strain, rheumatic fever, syphilis, intemperance in alcoholic drinks, over-eating, and over-indulgence in anything are the main factors, and most of them may be avoided if men and women will but live in what the late Sir Andrew Clark termed "physiological righteousness."

THE CAUSES OF COLITIS, WITH SPECIAL REFERENCE TO ITS SURGICAL TREATMENT.[1]

WITH AN ACCOUNT OF 36 CASES.

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A GREAT deal of attention has been paid within recent years to the subject of colitis, more especially, perhaps, on the continent, and in 1905 Dr. W. Hale White brought the subject prominently before the profession in this country by the publication of his study of 60 cases. Although colitis is generally looked upon as belonging to the province of the physician rather than that of the surgeon, many cases of colitis come under the care of the surgeon.

Colitis has been described under many different names by different authors. Such names as colica mucosa, tubular diarrhœa, membranous colitis, and muco-membranous entero-colitis are only a few of the names which have been used to describe what is without doubt the same condition. My cases do not differ in symptomatology in any important particular from those recorded by other writers under one or other of these different names. The essential symptom in all cases is the presence of excess of mucus in the stools in the form of casts (complete or broken up), shreds, or large glairy masses. In addition bleeding, intestinal sand, diarrhœa, and acute attacks of abdominal pain are common accompanying symptoms.

From the study of my own cases I have been driven to the conclusion that colica mucosa, by whatever name it is called, has no claim to be described as a disease any more than has diarrhœa or hæmatemesis, but that it is a symptom or condition which may result from a number of different diseases of the colon of widely different characters. This is not, I think, a new hypothesis, as although the point has not been specially emphasised before it is the logical conclusion to be drawn from such collections of cases as those of Dr. Hale White and some of the German writers on the subject. I shall attempt to show that in the great majority of cases a lesion or lesions can be demonstrated which it is only reasonable to suppose is the cause of the condition.

Until a few years ago our only means of knowing the condition of the colon in cases of colitis was by a study of the symptoms and an examination of the abdomen and of the discharges, aided sometimes by what was seen of the outside of the bowel when an operation was performed or of its interior when the patient had died from some other cause when suffering from colitis. Within the last four or five years, however, the technique of examining the lower bowel by means of instruments has so much improved that we have been enabled to examine accurately the interior of the lower bowel in all those cases where symptoms of colitis were present, and in this way much has been learned as to the causes of colitis which was hitherto unknown.

The most important advance in our knowledge of these cases has been due to the invention of the electric sigmoidoscope. This instrument enables us to see the condition of the mucosa in the rectum and sigmoid flexure and to compare the condition found in health with that found when symptoms of colitis are present. It has rendered untenable the theory of Professor Nothnagel that colitis is a neurosis unaccompanied by local lesions of the bowel, for in quite a large proportion of the cases definite local lesions can be found to explain the symptoms.

A point of no little importance which a systematic sigmoidoscopic examination of the bowel in cases of colitis has brought out is that the causes for the condition are in many cases confined to the lower part of the sigmoid flexure and rectum. This fact was pointed out by Tuttle and Kelly and I have been able repeatedly to verify the truth of their observations. It is, after all, not surprising that this should be so as the portion of the large intestine which is most subjected to abnormal conditions is the sigmoid flexure and rectum; it is here that stagnation and pressure occur in constipation and there can be no doubt that constipation is by far the commonest antecedent of colitis; it is here that any irritant material, be it solid or liquid, will collect and tend to stagnate if present in the large bowel; and it is here that the greatest amount of traumatism from the passage of hardened fæcal masses will be felt. In fact, those portions of the large bowel which are most liable to injurious influences are the two dependent ends, the cæcum and the sigmoid flexure, and it is here that disease when it attacks the large intestine is most frequently found. We should therefore expect that the chief lesion would be situated either in the cæcum or in the sigmoid flexure and, as I shall attempt to show, this is the case.

Symptoms.—Diarrhœa was a prominent feature in a majority of the cases and in some it was most severe. In Cases 16, 20, and 23 there were at one time as many as from 20 to 25 stools per diem. The diarrhœa was usually the symptom which first caused the patient to seek medical advice. In almost all the cases there was an antecedent history of constipation quite irrespectively of whether an inflammatory lesion or a new growth was found at the examination.

Bleeding occurred in 22 out of the 36 cases. In most of the cases in which there was bleeding this could easily be accounted for by the fact that definite ulceration was present in the bowel. In some, however, no definite cause for the bleeding was discovered. In two of the cases of new growth, Cases 18 and 19, there was no bleeding at all. This shows, I think, that bleeding cannot be considered characteristic of new growth.

Mucus was present in the stools in all the cases in sufficient quantities to draw the patient's attention to it. In some cases very large quantities of mucus were passed so that the stools consisted sometimes of little else. The mucus was in some cases thin and almost fluid, in others thick and gelatinous or in shreds and strings. Large mucous casts were present in the stools in eight of the cases, and I would especially draw attention to the fact that casts were seen in two of the cases, Cases 3 and 21, which were due to malignant disease of the bowel. These two cases are, I think, worth recording in detail.

Case 3 was that of a woman who for five years had suffered from acute attacks of pain in the abdomen followed by the passing of large mucous casts per anum. There had been some bleeding at times during the last 12 months. On examining her I found that she had a large growth in the sigmoid flexure. The growth was quite inoperable and she died a few months after I saw her.

Case 21 was that of a man who had only had symptoms of bowel trouble for six months. On several occasions he had passed mucous casts several inches in length. On examining him I found a large malignant growth in the sigmoid flexure and a mass of enlarged glands in the meso-rectum. No operation was possible in his case.

Loss of weight was quite as common in the non-malignant as in the malignant cases. It was most marked in those cases associated with severe diarrhœa.

Intestinal sand was seen in the stools in two cases (Cases 2 and 20). In both it was a fine yellowish-red sand when passed but it became black if left for some days. The sand was analysed in both cases and was found to consist of carbonates and phosphate of calcium and ammonium but no cholesterin. It is an interesting fact that in Case 2 the patient also occasionally passed uric acid gravel in the urine. In both cases very severe attacks of abdominal colic were associated with the appearance of the sand.

The interesting condition of enterospasm was present in one of my cases (Case 20). Enterospasm is a localised contraction of the bowel, often resulting in a temporary intussusception. It most usually occurs in the descending colon or sigmoid flexure and is accompanied by extreme pain localised to that portion of the abdomen in which the contracted portion of bowel lies. The spasm may involve a large length of bowel according to some authorities, but in those cases in which I have met with it only an inch or two of bowel has been contracted. In my patient there were attacks of extreme abdominal pain and a hard tumour about two inches in length could be felt in the sigmoid flexure. I examined the patient very carefully, as I suspected that her colitis might arise from a growth in the sigmoid flexure. She had constant diarrhœa with stools consisting of blood and mucus. The tumour might have easily been mistaken for a growth, but I found that it always disappeared when the pain ceased and was always present when a fresh attack

[1] A paper read before the Royal Medical and Chirurgical Society on June 11th.

of pain occurred. The contracted portion of bowel always occupied the same position and I came to the conclusion that the spasm resulted from an ulcer in that portion of the bowel, as there was tenderness over that spot when the contraction was not present. The patient recovered as the result of a careful dieting and irrigation.

My colleague at St. Mark's Hospital, Mr. F. Swinford Edwards, had a most interesting case of the same sort. He opened the abdomen to explore for a tumour in the sigmoid flexure and on drawing out the bowel found a contracted band about two inches in length resembling a local intussusception. While he was watching it disappeared and again reappeared. Enterospasm appears to result from some local irritation within the bowel. The irritation may result from an ulcer within the bowel or from a hardened fæcal mass or concretion.

The examination of the patient.—A patient suffering from colitis cannot, as a rule, be properly examined in the consulting-room or out-patient department of a hospital. The sigmoid flexure is normally full of fæcal material and special means are necessary to empty it. The patient should be confined to bed and the rectum and sigmoid flexure thoroughly emptied by aperients and enemata administered by a skilled nurse. The examination with the sigmoidoscope is not painful and, as a rule, causes but little discomfort, so that an anæsthetic is not required in most cases. The greater part of the sigmoid flexure can be readily examined and the condition of the mucosa observed. The sigmoidoscope, like the cystoscope or laryngoscope, requires practice before it can be properly used, but in skilled hands it is perfectly safe and the view of the parts obtained with it is all that could be desired. The abdomen should, of course, be examined, especially the appendix area and the left flank. The stools should also be examined and in some cases a microscopical or bacteriological examination made of the abnormal constituents.

Cases of colitis in which lesions are present within the bowel.—I shall attempt to show that some lesion either within the bowel or external to it, but involving it, can be demonstrated in the majority of cases of colitis and that the recent improved methods of examining the bowel have proved that what is generally called colitis is a symptom of some local lesion of the bowel. I do not wish to assert that whenever we find an abnormal condition of the mucosa we are necessarily at once to look upon it as the cause of the colitis. I do not think that the gravity of the lesion in some of the cases is sufficient to justify this view, and it may be that the appearances are but secondary to some more serious lesion at a higher level. That this may occur is evidenced by the following case which I saw in consultation with Mr. A. W. Mayo Robson. The patient was an elderly gentleman who for many months had been passing large quantities of blood and mucus in his stools. An examination with the sigmoidoscope was made and revealed the presence of numerous small follicular ulcers scattered about on the mucous membrane of the rectum and sigmoid flexure. There seemed to be sufficient ulceration present to account for his symptoms and he was treated by irrigation and injections upon this assumption. After a few weeks, however, although the ulcers had healed, he was still passing blood and mucus in considerable quantities. He was again examined with the sigmoidoscope and on this occasion a cancerous ulcer was detected very high up in the sigmoid flexure. This was subsequently excised by Mr. Mayo Robson. This case shows the importance of a thorough and careful examination and that the presence of definite ulceration in the bowel does not exclude the possibility of a more serious lesion at a higher level.

It will be observed by reference to the table of cases that in the majority of cases of colitis the lesions discovered on examination were of a chronic inflammatory nature. This is opposed to the views expressed by Nothnagel who believed colitis to be in most cases a neurosis.

In my series of cases a definite inflammatory condition of the mucosa was found in 24 out of the total of 36 cases, or in 66 per cent. The appearance of the inflammatory condition found varied very considerably in the different cases and varied sometimes in the same case at different times. In all the cases the inflammation was of a chronic character and appeared to involve only the mucous membrane or submucous cellular tissue.

The most usual appearance was for the mucous membrane to be injected and bright red; the normal mucous membrane is of a pale pink colour. The surface was dull, having lost its normal glistening appearance, and often granular. This granular condition closely resembles that seen in granular pharyngitis. In many of the cases the mucous membrane looked as if its surface had been rubbed off with sand paper. It bled readily if touched with the instrument and bleeding spots could often be seen apart from this. Scattered about on the mucous membrane there were irregular patches of yellowish white adherent mucus which often gave a very characteristic appearance to the bowel. Occasionally a very extensive area of bowel was affected, and in some cases the whole of the visible portion of the sigmoid flexure was involved. The inflammation was always most marked at the flexure and on the valves of Houston. In some of the cases, more especially when an examination was made during acute attacks, the condition resembled an extensive superficial ulceration of the mucosa.

In addition to the granular condition of the mucous membrane there was definite ulceration in seven of the cases. The ulcers were irregular in outline, quite shallow, and with a granular base. These ulcers were often very numerous and sometimes extended throughout the entire sigmoid flexure and rectum. To turn to the cases in which ulceration is found. The degree of ulceration which may be found in a case with symptoms of colitis varies very considerably. Thus in some cases I have seen a few shallow ulcers at irregular intervals, situated chiefly in the rectum or in the lower portion only of the sigmoid flexure. In other cases these ulcers were so numerous as to cover most of the surface of the rectum and sigmoid flexure, the normal mucosa standing out in contrast to the background of ulceration. Even in such cases, however, the ulceration may be so shallow as to involve the superficial layers only of the mucosa and it is important to distinguish between this variety and that in which the ulcers are numerous and deep. The latter is a much more serious condition; the ridges of healthy mucous membrane between the ulcerated areas here appear like polypi, so prominently do they appear to stand up from the surrounding ulcerated areas.

As a rule, ulceration is found in those cases of colitis where severe symptoms exist, but this is not always the case and I have seen well-marked ulceration in cases where the symptoms were mild and no ulceration in cases where the symptoms would lead one to suppose that severe ulceration was present. The ulcers as a rule in the more chronic cases are found at those points where local irritation or traumatism is likely to occur—thus, at the recto-sigmoidal junction, in the bottom of the sigmoid pouches, and on the surfaces of the rectal valves. These shallow ulcers must be distinguished from the ulceration found in cases of acute ulcerative colitis or dysentery. In the latter conditions the whole thickness of the mucosa is destroyed and if healing occurs there is of necessity considerable scarring.

In one case I had the opportunity of examining a patient who had recovered from a severe attack of dysentery and the white stellate-looking scars left by the healed ulcers could be seen all over the rectum and sigmoid flexure. In the shallow form of ulceration, however, which I have seen associated with chronic colitis the ulcers readily heal with suitable local treatment and no scarring results. The symptoms during an acute attack may, however, be very severe, and it is important to distinguish this form of ulceration from the deeper and more serious ulceration, as the prognosis, while good in the former, is not so favourable in the latter.

CASE 36 is of particular interest. The patient was a man, aged 41 years, under the care of Dr. G. Baynton Forge. He had always been a healthy man and, with the exception of one or two slight attacks of diarrhœa, had had no serious illness until recently. In July, 1906, after a period of overwork he was suddenly taken ill with severe diarrhœa. This got worse and he began to pass blood and mucus in considerable quantities. In spite of rest and treatment there was no improvement in his condition. He was for some weeks under treatment in Maidstone Hospital but without much benefit. When I first saw him in February of this year he was passing eight or nine stools a day and there was much mucus and blood. He had lost two stones in weight since the onset of his illness. He looked thin and had a pale and sallow complexion. I took him into St. Mark's Hospital and examined him with the sigmoidoscope under an anæsthetic. The whole of the mucous membrane of the rectum and of the lower part of the sigmoid flexure was rough and very coarsely granular, suggesting the appearance seen in granular pharyngitis. There was extensive ulceration of the mucosa,

TABLE OF CASES OF COLITIS.

No.	Sex.	Years of age.	Symptoms.	Duration.	Condition found.	Remarks.
1	M.	50	Attacks of pain; mucus; bleeding.	3 years.	No cause found.	—
2	F.	46	Severe attacks of pain; mucous casts; intestinal sand.	9 months.	,,	Patient much better but is subject to relapses.
3	F.	51	Severe pain during attacks; mucous casts passed after attacks; some bleeding during last 12 months.	5 years.	Cancer in sigmoid flexure.	Inoperable; the patient died.
4	F.	46	Mucus after attacks of pain; diarrhœa alternating with constipation.	Some years.	Nothing found.	—
5	F.	22	Continuous diarrhœa; mucus.	10 years.	Mucous membrane red and congested; upper limits not defined.	—
6	M.	40	Excessive mucus in stools; pruritus.	6 years.	Hypertrophic catarrh with œdema of submucous tissue; upper limits not defined.	—
7	M.	42	Blood and mucus.	3 months.	Hypertrophic catarrh; upper limits not seen.	—
8	M.	78	Blood and mucus with severe diarrhœa.	3 weeks.	Nothing abnormal found.	Got better but had a relapse five months later.
9	M.	26	Bleeding and diarrhœa; much pain at times; mucus in small quantities.	3 years.	Hypertrophic catarrh; œdema of mucous membrane; ulceration.	Has been operated upon for piles three times in two years.
10	F.	35	Large casts passed frequently; mucus constantly present in stools.	2 years.	Adhesions binding down sigmoid flexure; two and a half years ago a large abscess at the back of the pelvis was opened from the abdomen and drained; previously to this a normal appendix was removed.	—
11	F.	45	Passes mucous casts and blood.	4 years.	Granular chronically inflamed condition of mucous membrane, most marked in rectum but the upper limits not defined.	—
12	M.	23	Bleeding, diarrhœa, and pain of a spasmodic nature; mucus passed in large quantities.	6 years.	Mucous membrane granular and bleeds if touched; several small polypi seen high up.	—
13	M.	35	Diarrhœa and passing mucus in large quantities.	3 years.	*Nil.*	—
14	F.	17	Passing mucus and blood.	3 years.	Well-marked hypertrophic catarrh confined to rectum and lower part of sigmoid flexure.	—
15	M.	32	Constant diarrhœa and passing large quantities of mucus.	8 months.	Mucous membrane red, swollen, and granular; numerous shallow ulcers; mucous membrane normal above middle of sigmoid flexure.	Relapse five months later.
16	F.	32	Diarrhœa and passing mucus in large quantities; bleeding occasionally.	3 years.	Congested and granular condition of mucous membrane; upper limits not defined.	Rapid improvement; relapse seven months later.
17	F.	29	Pain, diarrhœa, and mucus.	1 year.	Much swelling and congestion of mucous membrane; narrowing of bowel from adhesions seen high up; laparotomy revealed adhesions of sigmoid flexure to appendix.	The patient had previously suffered from proctitis.
18	F.	42	Diarrhœa; mucus in considerable quantities; no bleeding.	3 months.	Cancer in sigmoid flexure.	Inoperable.
19	M.	63	Diarrhœa; no bleeding; mucus.	1½ years.	Papilloma high up in rectum; malignant at base.	Excision; recovery.
20	F.	39	Diarrhœa; much mucus; casts at times; bleeding; enterospasm; intestinal sand.	10 years.	Catarrhal inflammatory condition of rectum and sigmoid flexure; upper limits not defined.	—
21	M.	52	Much mucus; mucous casts; bleeding on one or two occasions slightly.	6 months.	Cancer in sigmoid flexure.	Inoperable.
22	M.	65	Diarrhœa; much mucus; some bleeding.	6 months.	Some congestion of mucous membrane.	—
23	M.	30	Diarrhœa; bleeding; much mucus.	3 years.	Extensive shallow ulceration, most marked in lower loop of sigmoid flexure and in rectum; upper limit not seen.	—
24	M.	28	Diarrhœa; much mucus; bleeding.	3 years.	Shallow ulcers in rectum and sigmoid flexure; granular mucous membrane; upper limits not seen.	—
25	M.	45	Diarrhœa and mucus in large quantities; blood occasionally.	Several years.	Catarrhal inflammation of rectum and sigmoid flexure. Some adhesions binding down the latter.	Local condition hardly accounts for symptoms.
26	M.	40	Diarrhœa and mucus.	1½ years.	Granular condition of mucous membrane and catarrhal inflammation; upper limits not defined.	—
27	F.	39	Mucous casts.	3 years.	Retroflexed uterus pressing upon the rectum and hypertrophic catarrh.	Ventrofixation of uterus performed.
28	F.	37	Mucous casts; bleeding.	15 years.	Catarrhal inflammation of rectum and sigmoid flexure.	—
29	M.	58	Diarrhœa and mucus.	8 months.	Nothing found.	—
30	M.	41	Diarrhœa; mucus.	2 years.	Slight catarrhal inflammation in rectum and sigmoid flexure.	Condition found hardly accounts for symptoms.
31	M.	40	Diarrhœa; mucous casts; bleeding.	3½ years.	Chronic inflammation with shallow ulcers in rectum and last inch or two of sigmoid flexure.	—
32	M.	53	Diarrhœa; mucus; bleeding.	6 months.	Cancer in sigmoid flexure.	Operation refused.
33	M.	50	Diarrhœa; mucus; bleeding.	9 months.	Catarrhal inflammation of rectum and sigmoid flexure and piles.	—
34	M.	65	Diarrhœa; mucus; bleeding.	1 year.	Ulceration of sigmoid flexure and cancer in middle of sigmoid flexure.	Growth excised.
35	M.	44	Diarrhœa; blood and mucus.	2 years.	Small cancerous growth in sigmoid flexure.	Growth excised and end-to-end anastomosis performed; recovery.
36	M.	41	Diarrhœa; blood and mucus.	7 months.	Ulceration of rectum and sigmoid flexure; mucous membrane very granular; fibrous band causing kink in the flexure at about its centre.	Exploratory laparotomy revealed a band fixing the middle of the sigmoid flexure; recovery.

the ulcers being irregular in outline and shallow, involving only the superficial layers of the mucosa. Above the centre of the sigmoid flexure the ulcers were much less numerous. On digital examination some enlarged glands could be felt in the meso-rectum and abdominal palpation revealed a distinct thickening in the left iliac fossa. He was treated by large oil injections into the colon and irrigation with potassium permanganate for a fortnight. Under this treatment the ulcers healed and all the symptoms cleared up. But as there was still a distinct thickening in the left iliac fossa and as I did not feel certain that there might not be a growth higher up in the sigmoid flexure than we were able to see with the sigmoidoscope I thought it advisable to perform exploratory laparotomy. On opening the abdomen I found there was no growth but the walls of the sigmoid flexure were very much thickened, so much so that the bowel in places felt like a thick indiarubber tube. There were also numerous enlarged glands in the meso-sigmoid. In the centre of the sigmoid flexure there was a thick fibrous band about three-quarters of an inch broad binding down the sigmoid flexure into the left iliac fossa and causing a kink in the bowel. The transverse colon was normal, as were also the cæcum and appendix. All the other organs were normal. I divided the fibrous band and closed the abdomen. After he had got over the operation the previous treatment was continued with the addition that he was given von Noorden's diet, and he was discharged apparently quite well at the beginning of April. With the sigmoidoscope it could be seen that all the ulcers had healed and although the surface of the mucosa was still rough and granular it was decidedly better than at the first examination.

In four cases there was a chronic hypertrophic catarrh associated with œdema of the submucous tissue. On examining such a case with the sigmoidoscope the mucosa is seen to be much paler than normal and to be thrown into numerous folds or concentric rings. The mucous membrane bulges forward into the bowel lumen, giving the appearance of a partial intussusception at the point examined. The mucous membrane is thickened and œdematous, though its surface retains its normal shiny appearance. The sigmoidoscopic appearances are very characteristic and cannot be mistaken. This condition was associated in all my cases with excessive secretion of gelatinous mucus.

Severe pruritus was present in two of the cases and the patient in Case 6 consulted me on this account. This patient got better after regular irrigation of the bowel with an alkaline lotion and the use of astringent injection of krameria, and his pruritus, which had existed for many years, was cured. I have seen this hypertrophic catarrhal condition of the mucosa in two cases of pruritus in which the patient did not give a history of colitis.

Cancer as a cause of colitis.—In seven (Cases 3, 18, 19, 21, 32, 34, and 35) out of my series of 36 cases the colitis was due to a tumour within the bowel. In all of these cases there was considerable doubt about the diagnosis previously to the discovery of the tumour and several of the patients had previously been under treatment for colitis. In looking through my cases of cancer of the rectum I find there are several in which the symptoms were those of colitis rather than cancer, but I have not included them as there was at no time any doubt about the diagnosis as a digital examination revealed the true state of affairs.

It is impossible from the symptoms alone to distinguish those cases of colitis which are due to cancer from the other forms. The presence of blood in the stools is of no value. In Cases 18 and 19 there was no blood and only a very small amount of blood on two occasions in Case 21. Definite mucous casts may be passed in cases of cancer, as is shown by Cases 3 and 21. In both these cases typical mucous casts had been passed on several occasions. The age of the patient does not help us much, as in Case 18 the patient was only 42 years of age, and only two of the others were over 55 years, while the average age for all the cases is 43 years. The time during which the symptoms have existed will not exclude cancer, as in Case 19 symptoms had existed for one and a half years and in Case 3 for five years.

Case 3 is a remarkable one. The patient had had symptoms of a severe colitis for five years; she had passed mucous casts of the bowel after acute attacks of abdominal pain. She had laparotomy performed twice. What was found on the first occasion I do not know but at the second operation an adherent ovarian cyst was removed. When I saw her she had a malignant growth at the upper end of the sigmoid flexure. A short-circuiting operation was subsequently performed by another surgeon but she died from intestinal obstruction shortly afterwards.

In Case 18 a large growth in the sigmoid flexure was discovered on examining the patient with the sigmoidoscope. I subsequently performed colotomy after finding that the growth could not be removed. In Case 19 I removed the growth, which was a large papilloma becoming malignant at its base, and the patient has remained well since, a period of over two years. In Case 21 the growth was inoperable. In Case 32 the growth was seen high up in the sigmoid flexure through the sigmoidoscope. The patient unfortunately refused operation. In Case 34 the growth was situated 22 centimetres from the anus. It was seen through the sigmoidoscope and could not have been diagnosed otherwise. This patient had numerous small ulcers scattered over the mucous membrane of the rectum and sigmoid flexure below the growth. Mr. Mayo Robson subsequently excised the growth from the abdomen and anastomosed the ends of the bowel.

Case 35 is of particular interest. The patient was an exceedingly neurotic man, aged 46 years, who was sent to me by Dr. G. Baynton Forge. For nearly two years he had been under treatment by different practitioners for ulcerative colitis and during that time he had been passing blood and mucus in his stools almost continuously. There were no constipation and no difficulty in keeping the bowels open at any time. He had been putting on weight slowly for about two months before I saw him. On examining him with the sigmoidoscope I found a small malignant growth, of about the size of a shilling, growing from the anterior wall of the sigmoid flexure about six inches above the upper end of the rectum. The mucous membrane above the growth was inflamed and resembled the condition seen in non-malignant cases of colitis. I excised the growth and a V-shaped portion of the adjacent mesentery from the abdomen and joined the ends of the bowel end to end by simple suture; the abdomen was closed without drainage. He made a good recovery and returned home in good health about one month after operation. A microscopical examination of the growth showed that it was an ordinary medullary carcinoma.

Among the rarer causes of chronic colitis which have been recorded mention must be made of actinomycosis of the colon, two cases of which are recorded by Beck. Another rare local condition is tuberculosis, of which seven cases are recorded by Beck.

Multiple adenomata of the large intestine.—This is a very curious condition and only a comparatively small number of cases have been recorded. These adenomata are present in great numbers; in some cases the entire mucosa of the large bowel is covered over with them. In some of the cases only a portion of the bowel is affected, the commonest situations being the sigmoid flexure and rectum. The symptoms are those of a severe colitis. There is often much blood in the stools, but in some of the cases there has been none. One of the most remarkable cases of this disease was that reported by Lilienthal; the whole colon was affected and the patient was ultimately cured by excision of the entire large intestine. A case was reported recently by Dr. Mabyn Read, and the specimen of a case was shown at the Leicester meeting of the British Medical Association in 1905 by Mr. E. Stanmore Bishop. Dr. Carey P. Coombs has also recently reported a case.

Causes of colitis outside the bowel.—Colitis may result from adhesions due to an acute pericolic inflammation. Cases of acute pericolitis are not uncommon and several well-authenticated cases have been described, notably by Dr. H. D. Rolleston. In one of my cases the patient had an acute attack of abdominal inflammation and a large abscess in connexion with the sigmoid flexure and rectum was found and opened through an abdominal incision. Shortly afterwards she commenced to suffer from well-marked symptoms of mucous colitis, which increased up to the time I saw her three years after the operation. Everything pointed to the adhesions around the sigmoid flexure and binding it down into the pelvis as the cause of her symptoms.

Uterine displacement may be a cause of colitis by interfering with the action of the sigmoid flexure and the evacuation of its contents into the rectum. A retroflexed uterus acts like a ball valve in blocking up the posterior pelvic outlet and causes a very considerable degree of obstruction in some cases. In Case 27, in which laparotomy was performed for colitis, the retroflexed uterus could be seen to block the posterior pelvic outlet almost completely and the

sigmoid flexure above the point of constriction by the uterus was greatly distended and hypertrophied. Ventrofixation of the uterus resulted in considerable improvement in this patient's condition.

Beck out of 500 cases of chronic colitis found chronic inflammatory lesions in the neighbourhood of the colon in 394.

Colitis and appendicitis.—It is difficult to say exactly what is the association between appendicitis and colitis. The most usually accepted view is that colitis may result from a chronically inflamed appendix. Dr. H. A. Caley has expressed the view that appendicitis often results from colitis. The probability would seem to be that both appendicitis and colitis result from the same causes—namely, incorrect dieting and constipation. That appendicitis can be the cause of colitis is, I think, unquestionable. The evidence in favour of this view is very strong. A certain degree of colitis is usually present in all cases of acute appendicitis, though no definite symptoms of the conditions may show themselves.

In exactly what way appendicitis causes colitis we do not know, but it seems probable that it may produce it in several ways. 1. Appendicitis is generally accompanied by inflammation of the ascending colon and cæcum, and in some cases this inflammation of the colic mucosa may spread into the transverse colon and even reach the sigmoid flexure. As Mr. C. B. Lockwood has pointed out, it is not uncommon during the operation for appendicitis to find that the inflammation has spread into the ascending colon. 2. Appendicitis may also cause colitis by the formation of adhesions between the appendix or cæcum and the sigmoid flexure. These adhesions by interfering with the lumen of the gut either through direct constriction or by causing abnormal flexures and angles may result in a local inflammatory process being set up and the symptoms of colitis subsequently develop. The first result of such adhesions is usually constipation to be followed in a shorter or longer time by diarrhœa and the passage of mucus. This had occurred in Case 17. On opening the abdomen I found the appendix adherent at its tip to the sigmoid flexure and several adhesions binding down the sigmoid flexure and preventing it from rising out of the pelvis. Considerable improvement followed removal of the appendix and separation of the adhesions. 3. It would seem probable that a chronically inflamed appendix may cause symptoms of colitis by the frequent discharge of septic material into the bowel. It has become customary to describe the colon and rectum as septic channels, though there is no justification for this. As a matter of fact, septic organisms are not at all usually numerous in the large intestine and the pathogenic flora of the mouth is far more numerous than that of the rectum and colon. Even the skin is a more common habitat for septic organisms than the colon. It is not surprising therefore that a chronically inflamed appendix which is continually discharging septic organisms into the bowel may be the cause of colitis, just as we know that carious teeth and septic conditions of the mouth can cause gastritis.

We have very positive evidence that removal of an inflamed appendix will in many cases lead to a complete cure of colitis. In Mr. Lockwood's paper already referred to he records three such cases where the symptoms of colitis cleared up entirely after the removal of an inflamed appendix. Dr. Hale White, in his valuable paper on membranous colitis, records four cases in which the appendix was removed for symptoms of colitis. In only one of these, however, did a cure of the colitis follow the operation. It is noteworthy, however, that the successful case is also the only one of which it is recorded that the appendix was found to be diseased. Beck found a chronically inflamed appendix to be the cause of colitis in a considerable number of cases of chronic colitis and believes it to be a common cause of colitis. Tuttle records five cases of chronic colitis cured by the removal of an inflamed and adherent appendix. Olmsted of Ontario records a case of severe mucous colitis in which rapid improvement followed the removal of a congested appendix, and Amatt of Ontario records two similar cases.

Adhesions of the bowel as a cause of colitis.—There is every reason to believe that adhesions binding down the large bowel and interfering with its normal movements are an important factor in the causation of colitis. In a great many cases of severe and intractable colitis for which an exploratory laparotomy has been performed adhesions binding down the sigmoid flexure, and more rarely the cæcum or splenic flexure, have been found, and their division has been followed by a cure of the condition, though not infrequently the adhesions have re-formed at a later date with a recurrence of the old symptoms. These adhesions have been supposed to arise from long-continued constipation, but it is difficult to understand how adhesions can arise from constipation alone and it seems much more probable that the presence within the bowel of hard retained fæcal masses has set up a local inflammation or definite ulceration and that the adhesions to neighbouring parts have resulted from the local peritonitis thus caused. This seems all the more likely, as adhesions are usually found in those portions of the bowel, such as the sigmoid flexure, ascending colon, and cæcum, where retention of fæcal material most easily occurs. I believe local simple ulceration of the mucosa of the large bowel is much commoner than is generally supposed. I have often observed simple ulcers in the sigmoid flexure with the sigmoidoscope in cases of chronic constipation, though no symptoms of ulceration were present.

The adhesions interfere with the normal peristaltic movements of the colon and a chronic catarrhal inflammation of the mucosa is set up at the points where adhesions have formed.

A floating kidney has been supposed to cause colitis and Tuttle records two cases apparently cured by fixation of an exceptionally mobile kidney. In those cases of colitis associated with a moveable kidney which have come under my observation I have seen no reason to suppose that the condition of the kidney was in any way the cause of the colitis.

It is interesting to observe that symptoms of colitis may occur in cases of abdominal aneurysm. In such cases the colitis apparently results from the pressure of the aneurysm upon some contiguous portion of the large bowel. Tuttle records six cases of abdominal aneurysm in which there was well-marked and intractable mucous colitis.

In six of my cases no local cause for the colitis could be discovered and in two cases (Cases 25 and 30) the local lesion did not seem sufficient to account for the symptoms. In Case 29 in which no local lesion was found the subsequent history of the patient pointed to the presence of a malignant growth high up in the colon, but I have since heard that he is still alive, though not any better, one and a half years after he was examined. In Case 25 it seemed probable that the chief lesion was higher up in the sigmoid flexure than we were able to see. There are thus only six cases out of 36 in which there was no sign of any local lesion. And when we consider the very large part of the colon which cannot be examined it seems at least probable that there was a definite lesion in that part which could not be examined.

Treatment.—The most important factor in the treatment of colitis is undoubtedly to ascertain first of all the real cause of the condition. And the reason the treatment of colitis has often in the past been unsatisfactory is undoubtedly to be assigned to inaccurate diagnosis and treating as a disease what is only a symptom. In the inflammatory conditions rest in bed is advisable at the commencement of treatment. This is more particularly of value in enabling the patient to be kept under close observation. Irrigation of the bowel seems to be the best method of treatment if carried out properly and the inflammatory condition, as a rule, quickly subsides. A skilled nurse who understands how to get the irrigating fluid right up into the colon is essential. The irrigation must be done with a douche and not with a syringe. The reservoir should never be raised more than a foot or two feet above the anus and the fluid must be admitted slowly, with the patient in the semi-prone position. If the condition is at all acute it is better not to begin with irritant injections; an alkaline lotion, such as glycerine thymol co. 15 per cent., or sodium bicarbonate one drachm to the pint is very good, or if there is much ulceration hydrogen peroxide. Later argyrol 1 per cent., or potassium permanganate 1 in 2000, is very useful. Large injections of olive oil carefully administered and retained for as long as possible I have found most useful in some of the ulcerated cases. Irrigations are, however, quite useless unless care is taken to see that they reach the affected area, by no means always an easy matter. In some cases where there is local ulceration the ulcers can be painted with nitrate of silver or ichthyol through the sigmoidoscope. Dieting is also very important and the great thing is to get the bowels to act normally. Von Noorden's diet seems the best in most cases.

The most difficult cases to treat would seem to be those in which there is hypertrophic catarrh. They are easily made better but not easily cured. Stimulating injections are of

the most value in these cases and treatment must be continued for some time. In the malignant cases operation is, of course, indicated where possible. In those cases where colitis is associated with a thickened and tender appendix, removal of the appendix, so as to get rid of a source of infection, is certainly indicated. In some of the cases of severe ulcerative colitis giving rest to the bowel by establishing a temporary artificial anus may be necessary, but I do not think this will often be the case if the local treatment of the colon by irrigations and applications through the sigmoidoscope is carefully carried out. Before a left inguinal colotomy is performed for colitis a careful examination with the sigmoidoscope should always be made to ascertain whether it is possible to open the bowel above the diseased area. The only advantage of appendicostomy seems to be that it enables the patient readily to perform irrigation of the colon for himself.

In those cases of colitis in which no local cause can be found to account for the symptoms and in which no material improvement in the symptoms has followed a careful and thorough course of medical treatment, I think surgical interference is indicated. Laparotomy should be performed and a thorough examination made of the large intestine; any adhesions which may be found binding down the bowel should be divided; if the sigmoid mesentery is unduly lax, allowing partial volvulus to occur, it should be shortened by stitching. If there is a retroflexed uterus it should be fixed in the normal position and if any thickening or ulceration of the bowel wall can be detected the advisability of resecting that portion of the bowel or of short-circuiting it must be considered.

I do not think that the operation of ileo-sigmoidostomy is advisable except in a few exceptional cases. When very extensive adhesions or ulcerations in the large bowel are discovered, which it does not seem probable can be permanently remedied, this operation should be considered, as it may be the only means of saving the patient from becoming a chronic invalid. It is not an operation, however, to be lightly performed, as the large intestine is a useful and necessary portion of the human body and not, as some people suppose, a useless cesspool, to be cut out or short-circuited without damage to its owner.

I am well aware that it may be said of my cases and observations that owing to the fact that I am a surgeon those cases of colitis in which a local cause is demonstrable tend to preponderate unduly. I admit that this is so, but it may equally well be said that the reverse occurs with those cases coming under the care of the physician. A very large number of cases with symptoms of colitis present themselves for treatment at St. Mark's Hospital and we thus have exceptional opportunities of observing such cases at that institution.

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Cavendish-place, W.

SACRO-COCCYGEAL TERATOID TUMOUR WITH FORMATION OF METASTASES IN THE GROIN.[1]

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As tumours of the sacro-coccygeal region may be classed among the surgical and pathological curiosities I considered the following case worthy of record, more especially as it presented some unusual features.

The patient, aged 57 years, was admitted to Mercer's Hospital, Dublin, on Sept. 23rd, 1904, having been sent up from the country to have a tumour removed which, as he said, "prevented him sitting down." His history was briefly as follows: 35 years previously he first noticed a small lump of about the size of a nut in the middle line some distance behind the anus. This tumour grew very slowly and remained quite painless until about four years ago, at that time being of the size of an orange, when it assumed more rapid growth, and he felt what he called "rheumatic pains" in it. Since then growth had proceeded in rather a peculiar manner; one part would, he said, grow rapidly, forming a painful nodule with the skin over it reddened, but when the nodule reached the size of a hen's egg growth would cease and the skin become pale again; then another part would take on growth and the process repeat itself. For the last few months the upper extremity had been growing rapidly in this manner. At no period did the tumour break down or ulcerate and it was freely moveable for years but had become more fixed in the last 12 months. Some 33 years ago, or two years after the appearance of the above-mentioned tumour, he noticed a small hard lump in his right groin which had continued to grow slowly and quite painlessly up to the time under notice when it was of about the size of a duck's egg. About 20 years ago he discovered another lump also in the right groin above and outside the earlier one and this was about the same size as its neighbour. For the last year he had noticed increasing difficulty in micturition and defæcation, the stools becoming smaller until they were about as thick as his index finger. He said that latterly he had suffered from "rheumatic pains" in his right hip and down the thigh to the knee but that otherwise he was quite strong, had not lost much weight, and his chief complaints were that he was unable to sit for any length of time and that pressure or cold caused pain in the lump. He knew of no relatives who had suffered from similar tumours, and his own children, the youngest being 20 years old, showed no abnormality.

On examination a large tumour was found over the sacral region, the general character of which can be well seen in the accompanying illustration (Fig. 1.) It measured 15 inches over all from the upper to the lower extremity and 11 inches from side to side, the base extending from the upper border of the sacrum to the anal margin and from slightly outside the left margin of the sacrum to well on to the right gluteal region. Its surface showed irregular lobulations; the skin over most of the mass was mottled blue but over the upper pole it was red and inflamed. There was no induration round the base and the adjacent skin appeared perfectly normal. On palpation the tumour was found to be more or less fixed apparently to the back of the sacrum, but it could be moved to a certain extent from side to side. The skin covering it could not be moved apart from the tumour, but this appeared to be due to its tightly stretched condition. The consistence of the growth was not uniform, most parts being

FIG. 1.

The sacro-coccygeal teratoma before removal.

[1] A paper read before the Pathological Section of the Royal Academy of Medicine in Ireland on March 15th, 1907.

densely hard, but over several small areas it was diffluent or semi-fluctuant and on one spot a fine crackling rather like that felt in chondromata could be elicited on deep pressure. The upper pole was rather softer than the rest of the mass and pressure here caused pain. In the right groin were two tumours, each of about the size of a large duck's egg, and evidently enlarged lymphatic glands. The skin over them was perfectly normal and freely moveable. These tumours felt very hard and firm with a slightly nodular surface; they were almost painless on pressure and were freely moveable.

On rectal examination the hollow of the sacrum was found to be full of a hard mass of growth which pushed forwards the posterior wall of the gut, so that the lumen was semi-lunar in outline. This mass extended up as high as the finger could reach; its surface was slightly nodular and pressure caused little pain. A hard mass could also be felt anteriorly around the prostate, and on passing a urethral sound an obstruction was found in the deep urethra through which a No. 6 English sound could just be passed.

From the examination it was evident that the growth was so far advanced that it was out of the question to attempt complete removal, but as the patient was extremely anxious to have something done I removed the glands from his right groin on Sept. 29th as a preliminary measure and for purposes of examination. They both shelled out quite easily and with little hæmorrhage, and the wound healed by first intention.

Description of the glands after removal.—Each gland was of about the size of a duck's egg, hard and firm to the touch, and rather nodular on the surface. Macroscopically the cut surface showed that a definite capsule inclosed the gland which was composed of lobulated masses varying in size from that of a pin's head to that of a nut and of different shades of a brownish-red colour. These nodules were separated from one another by bands of semi-transparent homogeneous material from which exuded a slimy mucus-like substance. Small hæmorrhages could be seen in parts. Microscopically it was seen that the lobulated masses were in reality cysts with connective-tissue walls. In these cysts could be seen three different appearances:—

1. Parts where the cyst was full of cells with oval nuclei, and running through the mass of cells were connective-tissue bands containing blood-vessels; these bands were evidently the cores of intracystic papillary outgrowths. The layer of cells next the core was in places distinctly cubical. The connective tissue in parts showed commencing mucoid change.

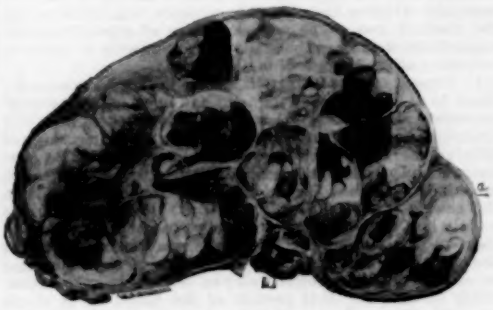
2. Parts where the cells were much less numerous and were arranged two or three rows deep round capillaries but separated from them by a zone of mucoid material. The cells abutting on this mucoid zone were distinctly columnar.

3. Parts where practically the whole tissue had been converted into mucoid. In places the capillaries could still be seen surrounded by a zone of mucoid, the different areas of mucoid being separated by a single layer of flattened spindle-shaped cells.

I take it that these three appearances are merely different stages of a very extensive mucoid change taking place in the connective-tissue stroma of the tumour round the blood-vessels and that this degeneration went on to such a degree that the cells atrophied from pressure and lessened blood-supply, and this reading, I think, explains the slow, almost inappreciable, growth of the glands. From these appearances we concluded that, although the tumour was malignant, it was of very slow growth and degenerated very quickly, so after explaining to the patient that he could not be permanently cured but only made more comfortable, I operated on Oct. 10th. It was found quite easy to remove the growth by cutting through only healthy tissue except at one part where a pedicle of about one and a half inches in diameter led into the pelvis through the coccyx which had been almost completely destroyed. The hæmorrhage was easily controlled by deep catgut sutures passed through muscles and fasciæ, drawing these structures together over the bared sacrum. As much of the intra-pelvic growth as possible was removed through the space left by the pedicle, a gauze drain was inserted, and the wound was closed by a continuous suture. There was considerable tension of the upper part of the wound and here the edges sloughed, but the wound rapidly granulated up. The patient was out of bed in a fortnight and a month later the wound was completely healed except for a small sinus over the position of the pedicle which ran into the pelvis. I then allowed him to return home as he could sit comfortably for an hour or two and expressed himself as very gratified with the result of the operation. Some time after his return to the country I heard that he had had several attacks of retention of urine and subacute obstruction of the bowel which prevented him regaining his strength. His condition gradually grew worse and he died 14 months after the operation. For the last few months he led a catheter life and had recourse to strong purgatives and enemata to empty the rectum.

Description of the tumour.—Its weight was 3 pounds 13 ounces. The surface was lobulated as described above; the

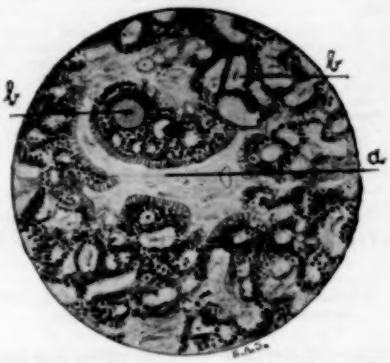
FIG. 2.



Macroscopical appearance of tumour cut vertically. *a*, Upper pole. *b*, Pedicle cut across. (Scale ½.)

skin over it was in parts adherent and in other parts it could with little difficulty be peeled off, as could also the piece of gluteal muscle which I removed with the tumour at its base. The consistence was in most places densely hard, but the diffluent areas mentioned could also be made out. On section (see Fig. 2) the cut surface presented for the most part a white semi-transparent homogeneous or fibrillated appearance and from it exuded a great quantity of the same mucoid material as from the glands. This whitish structure was arranged irregularly in bands and masses throughout the tumour, comprising about three-fourths of the entire growth and felt hard and firm. The remainder of the tumour was composed of cysts of various sizes and shapes, as a rule inclosed by a definite fibrillated whitish wall and full of rather soft spongy material of all colours from a yellow to a dark red, almost black, colour, but in most places of a brownish-red shade.

FIG. 3.



Microscopical appearance of teratoma showing (*a*) connective-tissue core of intracystic process with layer of columnar cells; and (*b*) numerous capillaries surrounded by zone of mucoid material.

Microscopically the greater part of the tumour—i.e., the solid whitish parts described above—consisted of fibrous tissue generally hyaline in character, arranged in loose bundles separated by mucoid material; in places hæmorrhage had occurred into the loose fibrous tissue. The cystic parts of the growth were all of essentially the same structure and I will only describe the appearance seen in sections of the pedicle and the upper pole. Under low powers the section of the pedicle reminds one in general arrangement

of the structure of papillary cystadenoma of the ovary. The interior of the cysts is broken up by numerous bands of connective tissue of varying strength, which acts as supports for the cellular elements of the tissue. In places these bands can be seen springing from the wall of the cyst, so that they are in reality the connective-tissue cores of the papillary outgrowths. Under higher powers the minute structure is seen to be almost identical with that described in the lymph glands—i.e., capillary vessels surrounded by fibrous tissue which in many places has become mucoid, and outside this two or three layers of epithelial cells, the layer next the fibrous tissue being columnar, while those outside this are irregular in shape and arrangement (see Fig. 3). In one place the appearance strongly resembles that seen in papilloma of the intestine. There are numerous pigmented cells in the connective-tissue stroma. The section of the upper pole or rapidly growing part of the tumour shows practically the same appearances. In a general survey we are again reminded of papillary cystadenoma of the ovary, though perhaps not so strongly. We see, again, the same essential structure of blood-vessels surrounded by fibrous tissue or mucoid substance, this surrounded by several layers of cells, the deep layer again columnar, the other irregular; the cells in their turn inclosing small irregular cyst spaces. In no part of the tumour is there evidence of marked mitosis and neither cartilage nor bone could be demonstrated, but a number of pigmented cells, perhaps of nervous origin, were seen.

The literature in English on sacro-coccygeal tumours is very scanty and the only reference of any value which I could find was in Bland-Sutton's "Tumours Innocent and Malignant." There he describes what he calls "congenital cystic sacroma," and considers that they arise from the post-anal gut. These tumours have, he says, a definite structure consisting of "closed vesicles lined with glandular epithelium and containing glue-like fluid. Many of these tumours are composed of cysts and duct-like passages lined with cubical epithelium held together by richly cellular connective tissue. In many situations the epithelium is columnar set upon flatter cubical cells. The cysts are filled with ropy mucus and vary in size from a nutshell to the smallest space visible to the naked eye. Many contain intracystic processes."

The German literature is, however, more profuse. Borst,[2] in dealing with teratomata of the anterior and posterior ends of the trunk, after describing the various forms of meningocele and tumours arising in connexion with meningocele or spinæ bifidæ, classifies the remaining teratomata of these regions into (*a*) tumours arising from fœtal inclusions—i.e., bigerminal tumours, and (*b*) monogerminal teratoid tumours, the essential difference being that in the former recognisable rudiments of organs not normally formed from the hind end of the fœtus are found. Tumours of either class occur commonly in the sacral and coccygeal region situated either in front or behind the vertebræ or in both places, the communication between the dorsal and ventral tumour then being either through or round the side of the bone. The structure in either case is also very similar, with the one essential difference mentioned above. Both consist of solid and cystic parts. In the solid part all forms of connective tissue are found with also usually fat, unstriped muscle, bone, cartilages, and nervous elements. The cysts vary in structure; they may be lined with a cubical, cylindrical, or flat epithelium or have a mucous membrane-like or ectodermic lining. Occasionally intestinal or neural canal epithelium is met with. True dermoid elements may also be found in some, while the contents of these cysts may be fatty, gelatinous, mucoid, or bloody, and their walls fibrous, cartilaginous, bony, muscular, pigmented, or papilliform. These various forms of cysts may be intermixed in the one tumour. Besides cysts we may find complex glandular structures and in a tumour reported by Middledorf[3] belonging to the second class a piece of well-formed intestine presumably derived from the post-anal gut was found. Hennig[4] published a paper on the congenital sacral tumours in which he gives an analysis of 22 cases collected from the literature and adds two of his own. Following von Bergmann he classifies tumours of this region which do not communicate with the spinal canal into (1) cysto-cavernous lymphangiomata and (2) teratomata; these latter he subdivides into (*a*) simple dermoids, (*b*) compound dermoids, (*c*) cysto-sarcomata, and (*d*) fœtal inclusions. His cysto-sarcomata are evidently identical with Borst's monogerminal teratoid tumours and with Bland-Sutton's tumours of the post-anal gut.

The theories of the origin of these tumours are various. Meckel regarded them as showing a tendency of the hind end of the embryo to develop like the fore end, Luschka as tumours of the coccygeal gland, Calbet, Hennig, and others as true parasitic double formations, while Borst looks on them as derived from vestigial and maldeveloped structures found normally at the hind end—viz., post-anal gut, neurenteric canal, aborted tail, and coccygeal remnant of the neural canal, and he considers that they arise from one or all of these.

I think there cannot be any doubt that the tumour which I have described above belongs to the class of monogerminal teratoid tumours, but it differs from all recorded cases because of the following peculiarities.

1. Its late appearance. Most recorded tumours have been present at birth and the others were discovered very soon after birth. Probably the intrapelvic portion of this tumour was present at birth and caused no symptoms, or perhaps a very small external sacral tumour existed long before it was noticed by the patient.

2. Its comparatively simple structure. This, however, may not be so simple as it appears, for although I made a careful search for bone, &c., and cut many pieces of the growth, still the examination cannot be considered complete, especially as one man cut over 400 sections of his tumour.

3. The occurrence of metastases in the groin. In the only other reported case with metastatic growth which I could discover the secondary deposit was found in the opposite ischio-rectal fossa. The patient was only five weeks old and died after operation, whereas in my case the metastases had been present for 33 and 20 years respectively.

In conclusion, I desire to thank Professor A. C. O'Sullivan for his interest in the case and to express my great indebtedness to Dr. T. G. Moorehead for his help with the literature, without which I fear my report of the case would have been incomplete.

Dublin.

[2] Die Lehre von der Geschwülsten, vol. ii., p. 899.
[3] Virchow's Archives, Band cl., p. 37.
[4] Ziegler's Beiträge, No. 28, p. 592.

NOTES OF A CASE IN WHICH GLYCOSURIA, DEPENDING UPON CHOLECYSTITIS AND CHOLANGITIS, DISAPPEARED AFTER DRAINAGE OF THE BILE DUCTS.

BY C. W. MANSELL MOULLIN, M.D. OXON., F.R.C.S. ENG.,
SENIOR SURGEON AND LECTURER ON SURGERY AT THE LONDON HOSPITAL.

THE following case, for the notes of which I am indebted to my house surgeon, Mr. A. J. Walton, is of especial interest at the present time in connexion with the surgical treatment of affections of the pancreas. It illustrates the fact almost as clearly as if it had been an experiment devised for the purpose, that in some instances glycosuria can be caused by septic infection of the pancreatic duct, extending into it from the common duct, and that the sugar will disappear from the urine completely after efficient drainage.

The patient, a stout, middle-aged woman, with an enormous flabby abdomen, was admitted into the London Hospital on April 4th last, with the diagnosis of calculous cholecystitis and cholangitis. There was a history of her having had an attack of biliary colic 11 years before and of her having been an in-patient under the care of my colleague, Dr. Percy Kidd, in October, 1906. On that occasion she was admitted for jaundice, which had already lasted several weeks, and which slowly disappeared under treatment. She does not appear at that time to have had any biliary colic, the only pain of which she complained being some dyspeptic trouble after food; and there was no vomiting after the first few days. The urine was examined on many occasions. No mention was made of any sugar having been present, and as the highest specific gravity was only 1032 it is not probable that there was any. The present illness began on April 2nd, suddenly, with severe pain in the abdomen and vomiting. The pain was of a dull aching character, not

that of colic, and was felt chiefly on the left side of the abdomen in the epigastric region. It was made worse by taking food and was relieved by vomiting. Jaundice set in the day after the attack and was fairly deep. Sickness had been almost incessant. The bowels had not been opened since the beginning of her illness.

On admission the patient was evidently very ill. The pulse was 96, intermitting every third beat, and very feeble. The temperature was 99·2° F. and the respirations were 28. The tongue was dry and red and there was deep jaundice. On examining the abdomen, which was very large and flabby, as if the patient had wasted a great deal of late, the edge of the liver could be felt some fingers' breadth below the margin of the ribs. The gall-bladder was enlarged and tender. It moved freely on respiration. The tenderness extended across the abdomen over the region of the pancreas, but nothing abnormal could be felt even on deep pressure. The urine was acid, dark brown in colour, was of specific gravity 1050, with an average of seven grammes of sugar in each 100 cubic centimetres. There was no albumin.

The patient's condition was such that immediate operation was out of the question. Calomel and sulphate of soda were given and the bowels were made to act by means of enemata, the motions being clay-coloured and very offensive. After some days the vomiting ceased, the patient was able to take liquid food, and the pain became less severe. The bile made its appearance in the fæces, the jaundice began to get lighter, and there was a definite change for the better, the pulse becoming fuller and less intermittent, though its frequency remained about the same. The temperature, however, which had fallen after the first two days, remained persistently below normal, and the amount of sugar in the urine and the specific gravity underwent no change.

Operation was performed on April 16th, the abdomen being opened by the usual incision through the right rectus. A calculus was felt low down in the common duct. With a little manipulation it was brought up to a part that was more accessible, the duct wall was incised, and the calculus was extracted. It proved to be a composite one of very irregular shape, made up of a number of small ones of pure cholesterin, more or less fused together, and coated over for the greater part of its surface by what appeared to be a kind of false membrane formed of lymph which adhered to it firmly. There were no other calculi in the duct and nothing abnormal could be felt in connexion with the pancreas. It was firm and hard but not to such an extent as to suggest any degree of chronic pancreatitis. The gall-bladder was full of small faceted calculi of the ordinary colour and composition, quite different from that which came from the common duct. A drainage-tube was fastened into the common duct, a second into the gall-bladder, and two long gauze drains were inserted, one in front of the common duct and the head of the pancreas, the other into the right renal pouch, and the abdomen was closed. The end of the bed was well raised and about five pints of saline solution with a little brandy were allowed to pass slowly into the rectum.

The after-history of the case needs very little comment. The gauze drains were left in for three and the tubes for 16 days. A very large amount of bile came away from the upper one in the gall-bladder; a much smaller quantity mixed with a cloudy watery fluid from the lower. The sinuses remained open for about a fortnight longer, all the bile passing with the motions, and then closed. On April 27th the specific gravity of the urine had fallen to 1035 and the amount of sugar to 2·6 grammes per 100 cubic centimetres. On May 4th it had fallen to 1018 and sugar was entirely absent. From that date until the time of the patient's discharge, although the urine was repeatedly examined, and she was on ordinary diet, there was no trace of sugar to be found.

The interest of this case lies in the disappearance of the glycosuria as soon as efficient drainage was established. From the repeated attacks of cholecystitis which the patient had had (there was a vague history of several others besides these two of which the dates were known), and from the fact that she had lost much weight (as much as 4 stones) in the past few years, it is probable that there was some degree of chronic pancreatitis, though the pancreas had not the stony hardness usually present in this condition. But the disease must have been merely of the interlobular type, and not as yet have involved the islands of Langerhans. Under the influence of septic inflammation spreading up the duct the interacinar portion of the gland became involved and glycosuria followed. Fortunately, as soon as a thorough drainage was established the inflammation subsided so quickly that to all appearance no permanent injury was inflicted upon the gland. Hitherto glycosuria, when occurring in association with cholecystitis and cholangitis, has been regarded as a bar to operation. As a matter of fact, it is one of the strongest arguments in favour of it. Thorough drainage not only prevents further injury being inflicted upon the gland by the septic organisms that have invaded it but, as in the above case, restores the gland to the condition in which it was before the septic invasion took place. So far as I am aware this is the first case in which a result of this kind has been recorded.

Wimpole-street, W.

MEDITATIONS ON GOUT.

(WRITTEN DURING AN ATTACK.)

BY CHARLES MERCIER, M.D. LOND., F.R.C.P. LOND.

IT is a disease of the rich, and of the wise also: so said the old physicians who had it themselves. On the first score I have no title to it, unless the saying refers to those riches which neither moth nor rust can corrupt, and which thieves cannot break through and steal. If this hypothesis is not sustainable, I can only suppose that, considering the severity of the attack, I must be endowed with a double and treble portion of wisdom. Kings, emperors, generals, admirals and philosophers are all said to be specially subject to gout; and, with respect to most of them, I am not in a position to deny it. The number of kings and emperors on my visiting list is quite limited; and, though my patients have comprised some admirals and more generals, it is not on account of gout that they have been my patients. But as to philosophers, I can speak more confidently. Among these, my acquaintance is extensive and varied, including the Socratic, the Platonic, the Aristotelian, the Kantian, the Hegelian (not so many of these lately, I am glad to say), the Comtian (almost extinct), and the Spencerian (a diminishing body). If there is, among all these, one who can endure an attack of gout, and still remain a philosopher, I do not know where to find him.

Scattered over the last half dozen years I have had about as many attacks of gout, which I thought at the time were pretty severe, but which I now know were trifling. However, they warned me; and since the first of them, that is to say, for the six years last past, I have lived the life of an anchorite; and adopted a diet which, if not quite "purin free," has been as nearly so as anyone who occasionally dines out can conveniently adhere to. Even on these social occasions, I am usually held in derision for my abstemiousness. Consequently, an attack of gout arouses in me a sense of injustice and injury quite distinct from the ill-temper which is commonly (and most untruly, I swear it!) said to accompany the malady.

The gout came on exactly one week after a particularly malignant attack of influenza, during the first two days of which the temperature was raised three or four degrees. Now, in fever, the metabolic processes are surely active in excess; and the amount of urates excreted is increased, so that one would expect an attack of fever to neutralise and prevent an attack of gout rather than to exacerbate it, if gout is due merely to an excess of urates in the blood.

During the whole of the attack of gout, the urine was copious, high coloured, and charged with abundance of urates; and no excess of purins was being ingested, but the contrary. Why, then, were urates deposited in the joints? The amount deposited, though enough to excite very severe inflammation, was but small compared with that which was being passed out through the kidneys. The kidneys were active, and were separating plenty, but—and this is most important—they were not acting up to their full capacity; for no deposit was thrown down as the urine cooled. The urine could, therefore, have held more in solution; and, as it does occasially hold more in solution when warm than it can keep in solution when cold, it is clear that the kidneys, active and efficient as they were, were not acting up to their full capacity. The blood that supplied the toe was taken from the very same blood-stream that supplied the kidneys. That which supplied the kidneys was not supersaturated with urates, and yet urates were deposited in the toe. On other occasions, when deposition of urates from the cooling

urine indicated that the urine, and therefore the blood, were supersaturated with urates, no urates were deposited in the toe. It seems difficult, in the face of these facts, to maintain that the deposition of urates in the joints is due to supersaturation of the blood with urates.

This, then, is the position:—The kidneys are acting freely and efficiently, yet, of the urate presented to them for excretion, while the greater part is excreted, a small portion is refused, and is carried on and deposited in the toe. Why is this? As it seems to me, there can be but one explanation, and that is, not that the blood was supersaturated, so that there was more urate in it than the kidneys were competent to deal with, but that this urate, that was carried on and deposited in the toe, existed in the blood in some combination which rendered it proof against the action of the kidney. In other words, gout depends, not on the quantity of uric acid in the blood, but on the fact that, of the uric acid in the blood, some portion is in a combination that renders it proof against the action of the kidney, and invests it with other qualities.

If gout is due to excess of uric acid in the blood, then gout should occur whenever the function of the kidney is impaired, so that the amount of urates excreted is much below normal. But gout is not an accompaniment of acute nephritis; nor is it an invariable accompaniment of the late stages of granular kidney. Kidney disease is a frequent accompaniment of gout, but it is by no means an invariable accompaniment, especially of early gout. Looking to the very great capacity that the kidney has of excreting urates, gout, if it is due to excess of urates in the blood, should never appear unless and until the kidneys are seriously diseased. But serious disease of the kidney is by no means necessary to gout. But if gout is due to some special combination of uric acid, which the kidneys try to excrete and fail to excrete, it is intelligible that the presentation of this substance to the kidney may have a damaging effect on the renal cells and that kidney disease should accompany late gout. On the other hand, it is not very intelligible that these cells should be damaged by dealing with the very substance which it is a principal part of their function to excrete.

My first hypothesis is, then, that gout is due to uric acid, but is not due to mere excess of uric acid. It is due, not to a quantitative, but to a qualitative alteration of the urates in the blood. It is owing to the presence of uric acid not as such, but of uric acid in some peculiar combination. This hypothesis is not antagonistic to any of the known facts concerning gout, and it is consistent with some which are inexplicable on the hypothesis of mere excess. Beer and champagne, neither of them rich in purins, will bring on gout much more often and much more rapidly than sweetbread, which owes nearly half its weight to purin. This is not intelligible if gout is due to quantitative excess of purin; but it is easily intelligible if beer and champagne provide some constituent which combines with even a small portion of the systemic uric acid to produce a noxious urate, while sweetbread, which introduces so much more purin into the circulation, introduces it in an innocuous form. The hypothesis harmonises also with the occasional precipitation of gout by mental fatigue, anxiety, and sorrow; for the effect of mental commotions in altering metabolism is indubitable, and among the products of such metabolic perturbance there may very well be small amounts of a substance that can combine with uric acid to form a noxious urate. But there is no evidence that the effect of mental commotion is to saturate the blood with uric acid, though such evidence should be obtainable if the fact were so. Again, migraine as well as gout is attributed to excess of uric acid in the blood. But migrainous headaches do not accompany attacks of gout, nor do attacks of gout accompany migraine. Migraine and gout do, it is true, often occur in the same person, but never at the same time. If they are both due to excess of uric acid in the blood, why do they not accompany each other? It may be said that if the excess of uric acid is deposited in the toe, it is no longer in the blood to produce migraine; but accepting this explanation, it still follows that an attack of gout should always be preceded by an attack of migraine, which should be relieved by the deposition of urate in the joint. But this is not what happens.

This leads me to my second hypothesis: that the combination of uric acid that produces gouty symptoms is not always the same, but there are probably many urates, which agree in being noxious, and in being more or less proof against separation by the kidney, but which differ in their pathological effects. There are many facts which favour this hypothesis. A patient of mine can always, by consuming a few heads of asparagus overnight, bring on a migrainous morning headache with scotoma—scotoma alone by a few heads, scotoma plus headache by a few more. Yet, however much asparagus he may consume, it never brings on an attack of gout. It is noteworthy also, that he gets neither scotoma nor headache by eating twice the weight of beef, although beef is said to contain ten grains of purin to the pound, while asparagus is credited with a grain and a half only. Clearly, therefore, something must be taken into account beyond the mere amount of purin that is consumed; and what is this something if not the particular chemical combination derived from the purin? Colchicum sometimes acts "as a specific" in gout; sometimes it produces no effect at all. I see no explanation of this difference except a difference in the chemical constitution of the urate. The attack of gout is, I take it, due to the deposition of urate in the joint. The subsidence of the attack follows, not the removal of the urate, for the joint continues to contain urate long after the attack is over, but to the cessation of deposition. If colchicum contributes to this cessation, it can only do so, as it seems to me, by entering into such a combination with the noxious urate in the blood that it ceases to be noxious, and becomes removable by renal action. If, as is the case, colchicum sometimes produces this effect and sometimes does not, it must be that in some cases the colchicum has a stronger affinity for uric acid than the body whose combination renders it noxious, and sometimes has a weaker affinity, and is unable therefore to displace this body. Hence I suggest that the varying manifestations of the gouty diathesis are due to varying, but allied, combinations of uric acid, probably with various but allied organic substances.

My third hypothesis concerns the attack of gout and its localisation in the joints. The prevalent explanation is that the deposition of the urate is due in some way to the fact that the tissues in which it is deposited are but slightly vascular; but if this is so, a favourite place for the deposition of the urate should be the cornea, in which such deposition is unknown. I suggest that the articular cartilages may secrete a substance which has a predominant power of breaking down the combination of uric acid with its organic ally, and converting it into urate of soda. On this view, the action of the cartilage, in breaking down the peccant combination, separating the urate from the blood, and retaining it in the joints, may be as conservative to the organism as a whole as the action of the blood cells in separating bacilli and consuming them. It is bad to have an attack of gout; but, by common consent, it is worse to have those gouty manifestations which cease when the attack of gout takes place. Surely, the recovery of the first Earl of Chatham from his insanity was cheaply purchased by an attack of gout. When a pernicious combination of uric acid is circulating in the blood, damaging the kidney, thickening the arterioles, perhaps perverting the action of the brain, it may be as valuable and as conservative for this combination to be broken down, even at the cost of a gouty joint, as it is to have a brood of streptococci extruded, even at the cost of an abscess. Almost monthly, discovery is made of some new and unsuspected chemical interaction of the tissues on one another and on the blood: there is nothing inherently improbable, then, in the suggestion that one of the functions of cartilage is to prepare a precipitant for some combinations of uric acid that are specially noxious, and that are proof against the separating action of the kidney. I am not chemist enough to know whether the resources of modern chemistry are equal to the task of testing these hypotheses, but should it be so, I suggest that they are a fair subject for bio-chemical investigation.

Wimpole-street, W.

EAST LONDON HOSPITAL FOR CHILDREN.—We learn that a bazaar to help this hospital is to be held in November next and that the Mayfair Motor Company of 22, Mortimer-street, London, W., has placed at the disposal of the chairman of the hospital one of its 6 horse power Mayfair cars. This is to be raffled for at the subscription price of £200, divided into 400 tickets of 10*s.* each, the money going to benefit the hospital. Tickets may be had either from the secretary of the hospital or from the secretary of the company, at whose offices the car will shortly be on show.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF MELÆNA NEONATORUM.

BY A. R. GUNN.

IN view of the appeal made by Dr. J. B. Page in the columns of THE LANCET of May 25th, p. 1431, the following instance of this rare and usually fatal condition may be worthy of record. One night last February I was present at a confinement in which labour was delayed by a persistent occipito-posterior presentation. The patient was also seen by Dr. H. Oliphant Nicholson. Forceps were applied and about 4 A.M. a small, under-sized, rather premature child was delivered, on whom vigorous and prolonged treatment was necessary before respiration could be induced. Some 20 hours after birth I was again called to the child who I found had passed during the three preceding hours, that is, since 9 P.M., several large, copious, extremely tarry stools, and had vomited frequently, and was at the time of my visit shrunken and collapsed. In the vomited material there were no clots, but it contained a small quantity of dark fluid blood which deeply stained the clothing. Since birth the child had not at any time been put to the breast. The treatment adopted was to give a small initial dose of castor oil followed by occasional sips of cold sterile water, strict attention being paid to the preservation of warmth. In a short time the vomiting ceased, the profuseness and tarry nature of the stools disappeared, and the child afterwards made an uneventful and wholly unexpected recovery.

Edinburgh.

A FATAL CASE OF MELÆNA NEONATORUM.

BY ALICE M. WHITE.

ON Jan. 11th, 1907, at 10.30 P.M., I was called in my capacity as a midwife to attend a confinement case. The notes may be interesting in connexion with the case reported by Dr. J. Basil Page in THE LANCET of May 25th, p. 1431. The mother had remained confined to her room for the last three months of her pregnancy owing to an injury. At 11.15 P.M. she was delivered of a female child and at 11.25 the placenta came away, the case being in all points normal and the female infant quite well. 36 hours after the birth I was called by an elder daughter, who said the baby was bleeding from the mouth. I was at the house within five minutes of the call and found no sign of bleeding from the mouth, but upon taking the child from the bed saw that she was lying in an actual pool of blood, which it appears the mother had not noticed. I at once dispatched the father for a medical man and undressed the child to find, if possible, the site of the hæmorrhage. This I found to be the rectum. By means of iron injections the hæmorrhage was controlled and the infant took a little diluted milk with a little salt added, but the case had gone too far and four hours later the child died. The medical man certified that she died from hæmorrhage and there was no post-mortem examination. The mother's story showed that the child had awakened at about 5 A.M. on the day of her death and had been given a few spoonsful of pure milk—contrary to directions, of course. She "changed" the child by candle light, early in the morning, and noticed that the motions were dark. I found on arrival that the child had passed large clots of blood, so the bleeding had evidently gone on for four or five hours, the mother having slept until 10 A.M. in the morning.

, The interesting little accounts of cases of melæna neonatorum which we publish above are not written by medical practitioners. We very rarely publish in our clinical records the notes of any but qualified medical practitioners—we may say that we make this limitation a rule—and it is curious that the two exceptions to the rule should have occurred simultaneously. Miss White is a certified midwife. Mr. Gunn is a senior medical student working on "genetics" under Professor Schäfer in the physiological laboratory of the University of Edinburgh.—ED. L.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL, E.

A CASE OF GENERAL PNEUMOCOCCAL INFECTION, WITH ACUTE NECROSIS OF BONE.

(Under the care of Dr. J. A. COUTTS.)

FOR the notes of the case we are indebted to Mr. A. L. Loughborough, house physician.

A female, aged two years, was admitted on April 3rd and died on May 8th, 1907. The history of the case was as follows. The child had always been healthy up to two months ago when she developed measles, since when she had not been herself. On April 1st (two days before admission) she had been taken suddenly ill with diarrhœa, vomiting, and fever. She had complained of headache and pain in the right side of her chest. Her breathing had been rapid and for the last two days she had developed an irritating and troublesome cough. There had been no convulsions. She had been lying semi-conscious in her mother's arms for the last 24 hours.

On admission the patient was a well-nourished child looking desperately ill; her face was ashen white. She was breathing rapidly and her alæ nasi were working. Respirations were laboured and accompanied now and then by a short dry cough. Ther espirations were 44, the pulse was 168, and the temperature was 102° F. As regards the lungs the right base was dull to percussion up to the angle of the scapula. On auscultation the breath sounds were diminished and bronchial in character; the voice sounds were distant. The left lung appeared to be normal. The heart's apex beat was a quarter of an inch outside the left nipple line. The sounds were clear, with some accentuation of the second at the base. There was no increase in the area of cardiac dulness. Physical examination revealed nothing further of interest. The right base was explored on admission with a negative result.

On the following day the child seemed much worse. The temperature was 103°, the pulse was 168, and the respirations were 68, and from this time the child went steadily down-hill. On the fourth day after admission she was practically moribund and was given a mustard pack with marked improvement to her condition. Two days later (the sixth after admission) a fluctuating and pulsating swelling of about the size of an ordinary hen's egg was noticed over the fourth and fifth spaces just outside the left nipple line. On closely examining this swelling the pulsation was clearly transmitted. The swelling was incised and about three ounces of greenish pus were evacuated. At first this was thought to be a pointing empyema, as air was sucked in and then expelled through the incision, but as no physical signs of a collection of fluid on this side were detected the incision was enlarged and a more complete examination revealed that the fifth rib at its junction with the cartilage had undergone necrosis and that the abscess formed was totally extrapleural. The bone was bare and quite easily removed, the wound being drained. As the signs at the right base persisted 14 days after admission and the child did not improve a second exploration was made and pus was found and evacuated by a simple incision and drainage. A few days later the right shoulder-joint was found to be swollen, painful, and apparently full of fluid, and this by exploration was found to be pus; the joint was accordingly opened and drained. Three days after this the left hip-joint obviously contained fluid which proved to be purulent. This joint was also opened and drained. From this time the child seemed to become gradually worse, getting more wasted every day, the temperature dropping to subnormal, and she died in an exhausted condition on May 8th.

Necropsy.—At the post-mortem examination it was found

that about half an inch of the anterior end of the fifth rib, together with about the same amount of cartilage, had undergone acute necrosis with absorption. As regards the lungs the lower lobe on the right side was solid and airless (i.e., pneumonic); the left lower lobe was partially collapsed. The heart and pericardium were normal. An abscess was found between the pericardium and the pleura covering the right middle lobe. This abscess contained about three ounces of greenish non-offensive pus. The sinus of a granulating empyema was seen at the right base with much thickening of the pleura. The right shoulder-joint contained pus; the process had apparently started on the shaft side of the epiphysis, the head of the bone being completely separated. The left hip-joint also contained pus; the head of the bone was not separated; there was some erosion of cartilage. Nothing else of interest was found.

Bacteriology.—The following bacteriological examinations were made. Pus from the necrosed rib and from the empyema, the shoulder-joint, the hip-joint, and the pleuro-pericardial abscess (post mortem) gave pure cultures of the pneumococcus. Blood cultures ante-mortem and from the heart's blood post mortem proved negative.

Remarks by Mr. LOUGHBOROUGH.—I think this case is of interest, as acute necrosis of bone due to the pneumococcus is so unusual that it is worthy of publication. The process of bone destruction with regard to the humerus is also peculiar. I should like to point out the marked good effect which the mustard pack (viz., a sheet wrung out in a solution of 1 pound of mustard to 3 pints of water, in which the child is wrapped from ten to 20 minutes, then washed in a warm bath and put into hot blankets) had on the child who was practically moribund at the time it was given.

For permission to publish these notes I am much indebted to Dr. Coutts. I also have to thank Dr. H. Pritchard for kindly giving me the post-mortem and bacteriological reports.

NORTHAMPTON GENERAL HOSPITAL.

A CASE OF LARGE PAPILLOMA OF THE OVARY.

(Under the care of Dr. W. M. ROBSON and Mr. P. N. B. ODGERS.)

A FEMALE, aged 26 years, unmarried, was admitted to the Northampton General Hospital under the care of Dr. Robson on June 24th, 1906. She gave the following history. For the last seven years she had been subject to attacks of pain in the lower part of the abdomen, which were always worse at the menstrual periods. These had never been bad enough to make her lie up until three weeks ago. The catamenia had been regular every four weeks, lasting usually four or five days, until three months ago, since when they had been irregular and scanty. She had always had some amount of dysmenorrhœa and this had got much worse during the last year. Her bowels had been constipated for some time; she had never had any trouble with micturition. Three weeks ago she had to take to her bed owing to the severity of the abdominal pain, and when first seen at this time by Dr. Robson in consultation with Dr. J. Bayley, she evidently had some pelvic peritonitis. The lower half of the abdomen did not move with respiration, while it was extremely rigid and tender. Her temperature was 101° F. Under appropriate treatment the acute symptoms subsided, and when admitted into the hospital a more thorough examination was possible.

On admission she was markedly anæmic and thin. On examination the lower part of the abdomen was filled with a large fixed irregular bossy mass which reached from the pubes almost to the umbilicus. Laterally it extended further to the left than to the right. A vaginal examination revealed the uterus pushed forwards by this mass which completely filled Douglas's pouch. The fundus of the anteverted uterus could be felt, pressed up against the abdominal wall, distinct from the tumour which was attached to its posterior aspect. There was no ascites. With regard to diagnosis, the two most likely conditions appeared to be either a tuberculous peritonitis originating in the tubes or a solid ovarian tumour, the former being favoured at all events at first. For two months, therefore, she was put out of doors and placed on forced feeding and cod-liver oil. Her general health improved greatly during this time but the pelvic condition remained unchanged.

An operation was now decided upon and this was performed by Mr. Odgers on August 21st. A median incision being made, a solid mass was at once exposed filling the pelvis and adherent to its lateral walls, to the posterior surface of the uterus, and to the pelvic colon. These adhesions were separated with some little difficulty and the tumour was then found to spring from the left ovary. This latter was removed with the left tube. The right ovary was normal and there was no evidence of secondary deposits on the general peritoneum. Although somewhat collapsed after the operation, the patient rallied well and her convalescence was uneventful. She left the hospital on Sept. 20th and since then has been back at work quite well.

The tumour, when removed, was of the size of a child's head and weighed 2½ pounds. While the greater portion of it presented smooth bosses and looked like a fibroma on section, the part near the ovary was papillary. The ovary itself was surrounded by, but not involved in, the papillomatous growth, which appeared to have its origin at the hilum. A piece of either portion of the tumour was sent to the Clinical Research Association, which reported that it was a simple papilloma throughout but presented differences in the amount of stroma present.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Causes and Surgical Treatment of Colitis.—Experiments on Prolonged Protein Feeding of Fowls and Rats.—Changes in the Red Corpuscles in Pulmonary Tuberculosis.

A MEETING of this society was held on June 11th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. J. P. LOCKHART MUMMERY read a paper entitled "The Causes of Colitis, with Special Reference to its Surgical Treatment, with an Account of 36 Cases," which is published in full at p. 1638.—Dr. W. HALE WHITE, commenting on the title of the paper, remarked that the term colitis was too comprehensive, because this included many different intestinal conditions, whereas Mr. Mummery had apparently dealt with only one of these—namely, muco-membranous colitis. Membranous colitis, on the other hand, was a definite disease occurring for the most part (80 per cent.) in women, attended by the passage of mucous casts and frequently associated with neurotic symptoms, with various visceral displacements and sometimes with membranous dysmenorrhœa. Most of Mr. Mummery's cases were males, in only about one-third were mucous casts passed, and they did not fall into the latter category. It was undoubtedly important to recognise the existence of local lesions, and he (Dr. White) recognised the value of the sigmoidoscope, but there were many cases which were not dependent on a local lesion. Moreover, some cases were secondary to local trouble in other parts of the colon (as evidenced by tenderness and the length of the casts) which could not be so revealed. Undoubtedly, there was a large number of cases independent of any local lesion, cases which generally recovered under appropriate medical treatment.—Sir DYCE DUCKWORTH also regarded membranous colitis as a distinct class of the disease. Many of these cases got quite well when treated by diet and simple injections, and he instanced the results obtained at Plombières-les-Bains. Mr. Mummery's cases did not all belong to this group; they were, however, severe intractable cases suitable for surgical treatment.—Dr. F. PARKES WEBER referred to some of the minor forms of catarrhal colitis which were not included in Mr. Mummery's paper. Such minor forms were quite common and were amenable to exercises and various other forms of treatment. He (Dr. Weber) believed that many of these cases were diagnosed as cases of recurrent "biliousness." Subchloride of mercury was an excellent treatment for such cases, though not necessarily by its action on the liver. When the intestinal mucous membrane was unhealthy the flora of the intestine was increased and calomel might act as an antiseptic. Curiously, purgation aggravated the symptoms at first, probably by increased absorption of toxins from the bowel.—Dr. P. J. CAMMIDGE commented on the absence of blood from the fæces in the malignant cases recorded and asked if a chemical or microscopical examination had been made.

The presence of blood revealed in this way was, in his experience, a constant and diagnostic feature of malignant disease of the bowel. In regard to simple colitis he had found three constant features in the stools: (1) an alkaline reaction; (2) an excess of inorganic ash (as much as 40 per cent. of the dried fæces, compared with the normal 15 per cent.); and (3) disturbance of the normal ratio (10 to 12 per cent. of each) between the saponified and unsaponified fat, when this ratio might be represented by 8 per cent. of the former and 22 per cent. of the latter.—Dr. SYDNEY P. PHILIPS, discussing the causes of colitis, could not regard constipation alone as an adequate cause; it was a very common condition and existed in many people who never developed colitis. The causes of ulcerative and other forms of colitis were very obscure. The sigmoidoscope was doubtless useful but it could not render assistance when the lesion was above the sigmoid flexure, as in a case to which he referred of ulcer of the transverse colon.—Dr. H. A. CALEY believed that Mr. Mummery had regarded some of the lesions as causes which were in reality consequences of the colitis. Might not the ulcerations and the adhesions come under the latter category? In regard to appendicitis also Dr. Caley held that it was the result of a previous colitis and not the converse.—Mr. MUMMERY replied.

Dr. DAVID FORSYTH read a paper entitled "Experiments on Prolonged Protein Feeding, with Special Reference to the Thyroid Glands and the Osseous System," which will be published in an early issue of THE LANCET.

Dr. E. I. SPRIGGS exhibited three series of rats fed upon different diets. The first series was fed on meat and distilled water, the second on meat with lime salts, and the third (the control series) on bread and milk. The coats of the first series were rough and filthy, the animals were thin, and their general condition was bad. The coats of the second series were good and their general condition was healthy. The coats and health of the third series were normal. The conclusion was that the change observed in the fur of these animals when placed upon a proteid diet was due to the absence of lime salts rather than to the proteid diet.

A paper by Dr. NOEL D. BARDSWELL and Mr. J. E. CHAPMAN on the Changes in the Red Corpuscles in Pulmonary Tuberculosis was taken as read owing to insufficiency of time.

PATHOLOGICAL SOCIETY OF LONDON.

Hæmogregarines in Snakes.—The Histogenesis of Goitre.—Osteolipoma of the Brain.—Valedictory Address.

THE final meeting of this society was held on June 4th, Dr. P. H. PYE-SMITH, the President, being in the chair.

Dr. L. W. SAMBON described Ten New Hæmogregarines from the blood of as many species of snakes. The forms seen were considered to be sporonts, no division forms of the asexual cycle being observed. The sporonts were all encapsuled and the author pointed out that these capsules presented a delicate oblique line passing transversely across the long axis of the parasite at from 1 to 2 μ from one or both of its extremities. Sometimes this line showed as a white, highly refracting, unstained line, and in others, especially in specimens prepared with Giemsa's stain, these lines were stained of the same pinkish colour as the general outline of the capsule. It was suggested that these lines might represent lines of future cleavage of the capsule. In films prepared from blood which had been exposed to the air for a few minutes a greater or smaller number of sporonts were found free in the blood plasma. A small beak-like projection was noted at the anterior extremity of certain of the parasites. This small rostrum appeared to be retractile and in two species the author noted the frequent presence of a white somewhat sinuous line which, starting at the base of the rostrum, extended for about 7 μ into the interior of the parasite in a way which seemed to suggest a definite structure. In one species, *Hæmogregarina rarefaciens*, the sporonts presented a definite dimorphism which was thought to represent possibly sexual differentiation. The host cells of the same species appeared enlarged to two or three times their normal size while thinned out to an extraordinary degree, so that lines like creases ran across the corpuscles, the edges of which might appear wavy; such corpuscles were completely dehæmoglobinised. The species described were:—*Hæmogregarina Pococki*, in Indian python, Python molurus; *H. Shattocki*, in diamond snake, Python spilotes; *H. refringens*, in hoary snake, Pseudaspis cana; *H. Mansoni*, in testaceous snake, Zamenis flagilliformis; *H. rarefaciens*, in Couper's snake, Coluber corais; *H. Cantlici*, in conical eryx, Eryx conicus; *H. Wardi*, in king snake, Coronella getula; *H. Brendae*, in hissing sand snake, Psammophis sibilans; *H. Seligmanni*, in bushmaster, Lacheais mutus; and *H. Terzii*, in common boa, Boa constrictor.—Dr. D. N. NABARRO said that gregarines were known in the blood of other species—viz., frogs and fishes. These were sometimes found in the white corpuscles, and at the present time he had a rat in which the gregarines were present in the white corpuscles. He asked whether it was known what relation these bore to those found in the red corpuscles.—Dr. SAMBON, in reply, said that in snakes the leucocytes were also sometimes infected.

Dr. P. G. E. BAYON demonstrated a series of microscopical slides and specimens showing how Desquamation of the Epithelial Lining of the Colloid Follicles in the Thyroid may be followed by the Development of Parenchymatous Goitre. The new tissue grew from the existing follicular epithelium. Such desquamative processes had experimentally been shown to be the result of most varied causes, as injections of toxins or bacteria into the thyroid artery, ligature of the vessels, and injections of mineral poisons into the parenchyma of the gland. Increase in size of the gland had resulted in course of time. Some toxic reactions of the thyroid led up to proliferation of the secreting epithelium as found in Graves's disease and shown experimentally on the dog. Severe and diffuse injuries of the thyroid of bacterial or toxic origin led to complete connective tissue substitution of the glandular tissue, as seen in myxœdema and sporadic cretinism and produced experimentally in the rabbit and cat. Adenoma of the thyroid did not appear to take its departure from embryonal tissue, as its intracellular fat differentiated it from the cells of the embryo thyroid. Experimentally adenomatous tissue, with enormous increase in size of the thyroid, had been produced in the rabbit by incomplete ligature of the thyroid arteries. This was the first and only successful attempt to produce goitre experimentally in a non-goitrous district without the aid of bacterial infection.—Dr. W. P. HERRINGHAM said that the pathology suggested by Dr. Bayon was not supported by the clinical aspect of Graves's disease.—Dr. S. RUSSELL WELLS said that he had always regarded Graves's disease as a form of inflammation of the thyroid gland and had treated such cases with compresses of adrenalin with considerable success. He looked upon the condition as comparable to a scarlatinal nephritis.—Dr. C. G. SELIGMANN asked that since a severe lesion gave rise to a fibroid condition of the thyroid gland whether it could be shown that cretinism was due to the same process.—Dr. F. PARKES WEBER compared the condition met with in the thyroid to that found in the liver in which there was obstruction to the bile duct.—Dr. BAYON, in reply, said that there were two forms of cretinism: one in which the thyroid was never developed, only the parathyroid being present, and another in which the thyroid was fibrous.

Dr. F. PARKES WEBER and Mr. PETER PAUL DASER described an Osteo-lipoma of the Brain. A bean-shaped tumour, measuring 15 by 10 by 10 millimetres, was discovered at the base of the brain in making a post-mortem examination on a women, aged 29 years, with chronic renal and cardiac disease. It had produced no symptoms during life. It lay behind the optic chiasma and between the optic tracts, arising from the back of the infundibulum cerebri, close to the attachment of the pituitary body. It consisted of typical pale yellow fatty tissue, including a harder and darker nodule, of the size of a small pea, which on microscopic examination was found to be composed of cancellous bone. Sections cut after decalcification showed the structure of the trabeculæ to be that of true bone, with lacunæ and canaliculi and here and there an Haversian canal. The medullary spaces between the trabeculæ contained red bone marrow with scarcely any fat. In the literature on the subject an analogous case described by Dr. H. C. Bristowe at the society in 1855 was specially referred to.

The PRESIDENT then gave the following address. He said: Our society, which enters on a new career to-day, was founded in 1846. The first president was Dr. C. J. B. Williams, a pupil of Laennec, an accomplished pathologist and experimenter in more than one direction, a man of high character to whom I, as a young physician, was more than once indebted. He

was followed, after two years, by a surgeon and this alternate choice between the two branches of the profession has been preserved until very recently. In 1848 Mr. Aston Key succeeded to the presidency; a brilliant surgeon, who was prematurely cut off by the epidemic cholera of 1850. His successor, Dr. Peter Mere Latham, was best known by his admirable lectures on medicine, almost equal in style to those of Paget and delivered at the same celebrated medical school. The second surgical president, Mr. Cæsar Hawkins of St. George's Hospital, died before he had completed his term (1853) and was followed by Dr. Guy Babington. This son of the eminent physician and mineralogist, whose statue stands in St. Paul's Cathedral, was also a remarkably accomplished man. He was sent to sea as a midshipman and was present at the battle of Copenhagen. He was afterwards professor of Tamil in India and graduated from Pembroke College, Cambridge—a learned physician and the physiologist who first defined the blood, not as consisting of serum and clot, but as of corpuscles and liquor sanguinis or plasma (as we now call it). He also invented a "glottiscope" in 1829 to enable the vocal cords to be seen, an earlier though less perfect instrument than those of Garcia (1855), and Türck (1857), and Czermak and Türck (1858). The name "speculum laryngis," or laryngoscope, was given by his colleague, Dr. Hodgkin. Babington was succeeded in 1855 by Moncrieff Arnott, a Scottish surgeon of wide scientific knowledge, which he used with liberality and ingenuity in practical hygiene. In 1857 Sir Thomas Watson became president, a man beloved and honoured like the elder Babington, and master of a style as classical and more easy than that of Latham. Sir William Fergusson, the eminent Scottish surgeon, of King's College, became president in 1859, and was succeeded by Dr. Copland, the author of a once popular cyclopædia of medicine. The next president was Sir Prescott Hewett, an accomplished surgeon and a most skilful operator. His successor in 1865, Dr. Peacock, was one of the best presidents we have ever had; a master of pathological anatomy, as well as of medicine, liberal and honourable, and not without a touch of humour on occasions. Like Fothergill, he was a member of the Society of Friends. He was followed by Sir John Simon (1867), senior surgeon, as Dr. Peacock was senior physician, of St. Thomas's Hospital. He was an able surgeon and a distinguished pathologist, but his general work was advising the Local Government Board on questions of public health, and his reports were remarkable for their scientific and practical value as well as for their precise and elaborate style, which sometimes reached eloquence. Sir Richard Quain was the next president; an Irishman, with the full share of his countrymen's ready wit and strenuous energy. His researches on fatty degeneration of the heart were of original value. He was the chief motive power in making the useful and necessary change from our original house in Berners-street to the present spacious rooms and he would have been delighted to see the union of societies which is now an accomplished fact. As President of the General Medical Council he gave a noble example of devotion to duty when knowing that he was the subject of incurable disease. The next surgical President was John Hilton (1871), an accomplished anatomist, an admirable teacher, and an original observer. His lectures on Rest and Pain were justly called by Giraldès "ce grand ouvrage de Mons. Hilton." A man no less eminent, upright, and plain-spoken was Sir William Jenner, for many years the Capo di Scuola at University College. He was a true pathologist and, as the acknowledged head of the profession, set a bright example of great talents used for the benefit of the public and the profession. Those of us who saw him introducing a deputation to the Home secretary, Sir Richard Cross, will never forget his eloquent defence of scientific investigation. The following President was Mr. George Pollock of St. George's Hospital, member of a family renowned in law and in arms, as well as in medicine, and himself a judicious and successful surgeon. Mr. Pollock was followed by Dr. Murchison (1877), a pupil of Hughes Bennett at Edinburgh, and long a remarkable bedside teacher at St. Thomas's Hospital, who, like Peacock, was removed by sudden death when visiting a patient. He was an eminent pathologist and an excellent geologist as well as a clinical teacher. The next president was Mr. Hulke, a sound surgeon, an accurate pathologist, and sharing with the elder Babington and Murchison the honour of eminence in geology, for Mr. Hulke was president of the Geological Society and of the College of Surgeons as well as of our society. Dr. Bristowe of St. Thomas's Hospital was a friend and colleague of Wilks, whom he rivalled in the number and value of his contributions to this society. He was an admirable teacher and a cultivated and liberal man. The majority has long received the next president on our list, Sir James Paget (1887), one of the most eminent pathologists this society can boast. All his observations were accurate and his exposition clear and concise. His insight was remarkable and wide. In purity of style and in oratory he outstripped all his fellows. His son's biography is a remarkable success in a difficult task. Sir George Humphry of Cambridge was an admirable lecturer, a keen observer, and a philosophical anatomist. The services he rendered to the Medical School at Cambridge deserve to be held in everlasting remembrance. Much more recently this society has been deprived by death of Sir John Burdon Sanderson, who became President in 1902—an eminent and accomplished pathologist who touched every allied subject and who adorned all that he touched. His work in University College and at Oxford has been well described by his successor, Professor Gotch. His lofty stature, his fine features, his dignity and urbanity, combined to form a figure of singular interest. As a teacher and a writer he was no less admirable. His best original work lay in that fruitful field which lies on the confines of zoology and botany. Such is the list of our past presidents who have joined the majority. But we thankfully and proudly point to no less distinguished men who are still with us. I could not do justice to their merits and must content myself with barely reciting the names of our surviving presidents: Sir Samuel Wilks, Mr. Hutchinson, Dr. Dickinson, Dr. Pavy, Mr. Butlin, Dr. Payne, and Mr. Watson Cheyne. May they long enjoy their well-earned reputation and rest assured that we regard them with pride and gratitude, with admiration and affection. When our society was founded pathology was still the handmaid of medicine and surgery, as is shown by the names I have cited. The science has now a far more independent position and is the foundation or *institute* on which all scientific prevention and treatment of diseases must rest. The study of morbid anatomy was the beginning of rational pathology. Then followed experiments on living animals, like those of Harvey himself, of Mayow, of Stephen Hales, of Hunter, and of Sir Charles Bell. Since 1846 we have seen the rise and vast progress of bacteriology as the third and most important chapter in the cause of disease. The fourth division of pathology is chemical, at present in its infancy, but probably destined to open many fresh paths to investigation. Especially fruitful will probably be the borderland between animal and vegetable pathology. The recent investigations by Professor Halliburton and Professor Mott into degeneration of nerve fibres deal with the conditions not only histological but also chemical. Moreover, by an unexpected series of observations it appears to be demonstrated that a parallel series of changes, after Wallerian degeneration of nerve fibres but in the reverse order, may lead to a restoration of the axis cylinder and ultimately of the whole injured nerve fibre. At present the future of experimental pathology lies on the knees of the Royal Commission on Vivisection. Let us hope that the result will be to give greater freedom for experimental methods. The minute anatomy of disease is not yet complete. The chemical aspect of pathology is not more than begun and our contributions in this department are comparatively few, though in value they have been great. Nowhere is the ground more promising than on the confines of physics and physiology, between botany and zoology, between chemistry and physics. The investigations embodied in Professor Farmer's admirable lecture before the Royal Society show how complicated may be the structure of a single cell. But complicated or simple it still baffles all attempts to explain its functions and their mechanism. To apply the words of an anonymous poet of the seventeenth century: In the ovum or the germ-cell

> "The thread of life untwisted is
> Into its first consistencies;
> Infant nature cradled here
> In its principles appear."

And, so untwisted, its principles are as great a puzzle as ever.

The society was then declared dissolved and the present council and officers were elected to constitute a provisional committee of the Pathological Section of the Royal Society of Medicine.

OBSTETRICAL SOCIETY OF LONDON.

Pregnancy in a Rudimentary Uterine Horn.—Primary Vaginal Embolic Chorion-epithelioma. — Chorion-epithelioma complicated by Hæmatometra.—Exhibition of Specimens.

A MEETING of this society was held on June 5th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. H. RUSSELL ANDREWS read a short communication on Two Cases of Pregnancy in a Rudimentary Uterine Horn. In the first case pregnancy had occurred in a right rudimentary horn and had gone on to about eight months when the fœtus died. Laparotomy was performed five months later, when suppuration had occurred. The specimen removed showed a small uterine cavity on the left side and the large right horn. The patient recovered. The second case was one of ruptured pregnancy through the rudimentary uterine horn at about the eighth month. The pregnant horn ruptured causing severe intra-peritoneal hæmorrhage. Laparotomy was performed and the pregnant horn removed but the patient died about an hour after the operation. The fœtus did not appear to be of much more than six months' development.—Miss L. GARRETT ANDERSON mentioned a case of cornual pregnancy on which she had operated recently. The gestation sac lay in the undeveloped right horn of the double uterus and corresponded to about two months pregnancy. The right ovary contained a recent corpus luteum. There was no communication between the right horn and the exterior.

Mr. HENRY T. HICKS read a paper on Primary Vaginal Embolic Chorion-epithelioma which was founded on a case of primary chorion-epithelioma occurring in the vagina of a woman, aged 28 years. A hydatid mole was passed and the growth was accidentally discovered about a month later. There was no evidence of primary uterine growth. The sections showed that the growth had the structure of a chorion-epithelioma, but no villi were seen. 14 other cases had been collected from the literature on the subject and the question of the degree of malignancy of this form of growth was discussed, as well as the theories as to the origin of the vaginal growths. The time at which the growth might appear in relation to the gestation was also mentioned. The patient remained free from growth for seven months after removal of the first growth. The second growth was excised without delay but two new foci appeared quickly. These were removed but two months later the anterior vaginal wall became rapidly infiltrated with extensive growth and it was decided that further operation would be hopeless. The patient, who up to this time had been comparatively well, now went downhill with great rapidity. The growth commenced to fungate into the vagina in many places, causing hæmorrhage. The temperature rose and signs of pulmonary trouble became evident. The patient died on May 8th, 1907, 11 months after the passage of the mole. The specimen removed at the necropsy was shown, together with sections and drawings of the growth. Some secondary nodules were found in the right lung.

Dr. W. S. A. GRIFFITH and Dr. HERBERT WILLIAMSON communicated a paper on a case of Chorion-epithelioma complicated by Hæmatometra. The case was recorded of a woman, aged 42 years, who was delivered of a mole, probably hydatidiform, on Dec. 30th, 1905. The patient had borne four children, the last eight years previously; her fifth pregnancy commenced in the early part of June, 1905. From August to December she suffered from numerous small vaginal hæmorrhages; from Nov. 17th to Dec. 29th she was under close observation, and as no increase in the size of the uterus occurred during this period a diagnosis of molar pregnancy was made and abortion was induced. A mole was expelled which in its general characters resembled a carneous mole, but upon the surface were seen a few vesicles. Three week later (January, 1906) the patient suffered from persistent hæmorrhage and the passage of clots; the uterus was explored and a quantity of blood clot and débris was removed. From this time the hæmorrhage ceased excepting for the loss of a very small quantity of dark blood on Feb. 16th, but the uterus again became enlarged and pain was felt in the pelvis. On March 3rd the uterus and ovaries were removed by the abdominal route. In November, 1906, the patient died with signs of new growth in the lungs. The uterine cavity was greatly distended with fluid and clotted blood, the cervix being completely occluded by blood clot. A growth of the nature of a chorion-epithelioma were found on the anterior wall near the fundus. Numerous lutein cysts were present in both ovaries. A description of the naked-eye and microscopical appearances of the parts removed was given and special attention was drawn—(1) to the excessive formation and wide distribution of lutein tissues throughout the ovaries; (2) to the support afforded by the specimen to the theory that lutein cells might arise by modification of the connective-tissue cells of the ovarian stroma; and (3) to the presence of a layer of necrosed tissue closely resembling Nitabuch's layer of canalised fibrin between the uterine wall and tumour outgrowths.—Mr. J. H. TARGETT thought that all cases of double lutein cystic tumours of the ovary should be carefully recorded. At an operation for ovarian cyst with pregnancy at the fourth month he found that the tumour consisted of thin-walled lutein cysts which partly ruptured on removal. The opposite ovary was in a similar condition. Both tumours were removed. A fortnight later the patient aborted. The fœtus was macerated and the placenta was partly composed of vesicular mole. So far the patient had shown no sign of development of chorion-epithelioma.—After some remarks by Dr. G. F. BLACKER, Mr. HICKS and Dr. GRIFFITH replied.

The following specimens were shown:—

Dr. C. J. N. LONGRIDGE: (1) Rupture of the Heart in a Still-born Baby; and (2) specimen and drawings of Dilated Ureters in Still-born Infants.

Dr. AMAND J. M. ROUTH: Pelvic Organs from a case considered to have Inoperable Ovarian Papilloma seven years previously.

The PRESIDENT: Myomatous Uterus, weighing 7 pounds, in a patient aged 22 years.

Dr. BRIGGS: Fibroid Induration around a Needle removed from the Left Labium Majus; (2) Early Tubal Pregnancy; and (3) Ovarian Pregnancy.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Lympho-sarcoma of the Lung.—Tuberculin Treatment of Tuberculosis.—Spleno-medullary Leukæmia.—Cerebellar-pontine Cyst.

A MEETING of this section was held on May 17th, Dr. T. P. C. KIRKPATRICK being in the chair.

Dr. JAMES CRAIG read notes on a case of Lympho-sarcoma of the Left Lung and exhibited the specimen. The patient was a man, aged 46 years, who came under Dr. Craig's care on March 12th, 1907. He had orthopnœa, cough, frothy expectoration, œdema of the lower limbs, slight ascites, albuminuria, and systolic aortic murmur. The left lung showed physical signs of complete solidification, with thickened pleura. He died on April 4th. The necropsy showed that a white, opaque, homogeneous, spherical tumour occupied the greater portion of the left lung. Secondary growths were present in the rim of lung tissue which the primary growth had not invaded. Portions of the tumour extended along the course of the left pulmonary veins, the pulmonary artery, and the aorta, so as to appear within the pericardium. The tumour appeared to have started in the bronchial glands and to have spread outwards.

Dr. FRANK J. DUNNE exhibited six cases of Tuberculosis treated by Professor Deny's Tuberculin in the South Dublin Union Hospital. One of the patients was a girl suffering from tuberculous disease of the wrist. The commencing dose of tuberculin administered to her was 5 parts in 1,000,000 and he did not know what would have happened if he had given her the dose of half a milligramme which is recommended in the case of Professor Robert Koch's tuberculin. Tuberculin at present had to be used with very great care and he believed that the ordinary trial doses were too strong. The cases were selected from one-third of the total (150) which he injected.

Dr. A. R. PARSONS read a paper on a case of Spleno-medullary Leukæmia which had undergone a very remarkable improvement under treatment with arsenic—improvement both in the size of the spleen and the condition of the blood. In another patient, a woman, 55 years of age, who had been on arsenic for about five months, the treatment had produced diarrhœa and vomiting. She then came to him, and, as the arsenic had caused no improvement, he put her

under the x rays. After 20 sittings the spleen commenced to diminish in size and there was also a marked diminution in the white corpuscles. The case therefore proved that the x rays alone could bring about a remarkable improvement.

Dr. HENRY C. DRURY cited the case of a woman who had a much larger spleen than the one described by Dr. Parsons. Every drug treatment was tried without result. Then they tried the x ray treatment alone and the spleen was enormously reduced. Ultimately she died from syncope.

Dr. G. PEACOCKE read notes of a case of Cerebellar-pontine Cyst which occurred in a man, aged 30 years. His symptoms were frontal headache, giddiness and staggering gait, failing sight, and deafness of the left ear. There was no vomiting. Examination showed paralysis of the muscles supplied by the seventh nerve on the left side and loss of sensation on the left side of the face. There was no loss of power or sensation in the legs or arms. The thoracic and abdominal organs were healthy. Examination of the eye showed optic neuritis, with small hæmorrhages and a white patch in the neighbourhood of the optic disc. There was no elevation of temperature and the pulse was normal. The patient died quite suddenly about six months after the first onset of symptoms. The necropsy showed a cystic growth involving both cerebellum and pons on the left side.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Discussion on the Report of the Rotunda Hospital.

A MEETING of this section was held on May 24th, Dr. R. D. PUREFOY, the President of the section, being in the chair.

Dr. HENRY JELLETT exhibited the following specimens: (1) A Uterus and Upper two-thirds of Vagina removed by Werder's method for cancer of the vagina; and (2) the remainder of the Vagina and the Inguinal Glands from the same case. He said that cancer of the vagina was a very rare condition. The patient was 39 years of age. She made a favourable recovery.—Mr. E. HASTINGS TWEEDY said that it appeared to him, from the description, to be a case of malignant disease of the vagina pure and simple; he was therefore anxious to know why Dr. Jellett considered the removal of the uterus necessary.

Dr. ROBERT J. ROWLETTE said that on first examining the vagina he had little doubt that he would find adeno-carcinoma of the body of the uterus, but on cutting the uterus and finding no primary focus of the disease he had, he thought, to conclude that it was primary in the vagina. It was possible that it was an adeno-carcinoma originating in Wolffian remains, or it might be an endothelioma.

Dr. JELLETT, in reply, said that the uterus was removed both because he believed the case to be one of intra-cervical carcinoma extending into the vagina, and because in any case of vaginal carcinoma, if the entire vagina had to be removed, it was necessary also to remove the uterus.

The adjourned discussion on the Report of the Rotunda Hospital for the Year 1905–06, by Mr. E. Hastings Tweedy, the master of the hospital, was then resumed.—Dr. JELLETT referred at some length to a case of concealed accidental hæmorrhage to which he had been called from the Rotunda Hospital some ten years before. He performed Porro's operation and found the placenta floating about in the uterus, which was full of blood. At a subsequent discussion his treatment was objected to on the ground that a large number of cases of concealed accidental hæmorrhage had been successfully treated by other means. If that were so, then Porro's operation was unjustifiable. Mr. Tweedy stated that the case in the report was the first case which he had ever seen and he (Dr. Jellett) had made out some statistics on the matter which showed that up to the year 1896 only five cases had occurred amongst 43,000 patients in the practice of the Rotunda Hospital. Mr. Tweedy's statement that such cases were of extreme rarity was therefore perfectly correct. Mr. Tweedy had a theory that a plug in the vagina would compress the uterine arteries; that theory was susceptible of proof, as if the uterine arteries were compressed the child would die, and that the child did not always die was proved by a case in Mr. Tweedy's present report. If a uterus from which no blood was escaping went on increasing in size he thought it was fallacious to suppose that a plug would make any difference, and the only thing that could be said for it was that it might bring on labour. He suggested that the condition was to all intents and purposes identical with that of internal hæmorrhage anywhere else, and consequently the correct treatment was to get to the bleeding point from above or from below and to stop the hæmorrhage at its point of origin.—Professor ALFRED J. SMITH regretted that he could find no advance in the teaching of midwifery in the report; he also regretted that methods of treatment were not set out in greater detail. As a teacher of students he would be glad to know why Mr. Tweedy altered the old-established division of ante-partum hæmorrhage. Again, he thought the results of the standard of morbidity were extremely notable. The Rotunda Hospital estimate made it a remarkably good standard, whereas the British Medical Association standard made it the same as last year. The question of which was the better standard was of importance to anyone estimating statistics. Then in the treatment of abortions it was not stated what kind of active interference was resorted to. He made the criticisms with a view to eliciting greater detail for the benefit of those who, like himself, would turn to it for information and enlightenment.—Sir WILLIAM J. SMYLY said that while he recognised the great difficulty in compiling tables, he agreed with Professor Smith as to the advisability of having more details in regard to interference in abortion, particularly as to the number of cases in which interference was necessary and the nature of the interference. He regarded the introduction of separate cots for infants as a matter of great importance.—Mr. J. SPENCER SHEILL said that it seemed to him peculiar that a patient in a healthy condition could die from labour collapse. The three cases referred to by Mr. Tweedy bore a strong resemblance to each other in respect of causation. He did not think that "shock" was the correct term. If the normal shock of labour acted on a patient in an unhealthy condition it was not the shock that was the primary cause of death. He thought that it would be better to put such cases down as death from unknown causes rather than under the ambiguous term of shock.—Mr. J. S. ASHE said he thought that they could greatly improve their methods of giving morphine salts. There were derivatives of morphine which were not so depressing as the hydrochloride.—The PRESIDENT expressed the opinion that pubiotomy would go a long way to rendering the induction of premature labour unfashionable, but he still thought that cases would be found for a while longer in circumstances which would justify induction.—Mr. HASTINGS TWEEDY, in reply, said that the point which Dr. Jellett had made in regard to concealed accidental hæmorrhage was a particularly good one. If he stopped the hæmorrhage in the uterine arteries the child died because he stopped the blood that went to the placenta, that was an apparently weak point in the theory; but he could say that he had never yet failed to stop hæmorrhage coming through a plug in the vagina, and he had never known of hæmorrhage pouring out over the plug. He had shown over and over again that there was no blood collected in the uterus when once the vagina was plugged. The plugging of the vagina caused a considerable amount of shock to the patient through pressing on the nerves, and he regretted to say that patients often did not get better in spite of the plugging of the vagina even though the hæmorrhage ceased, nor had he ever seen a living child born after plugging the vagina in the manner recommended as treatment for accidental hæmorrhage. As regards the cases of death from labour shock Mr. Sheill would see that Dr. Rowlette could find nothing to account for death, and though some other condition might have produced the shock it was the shock that killed the patient. Sometimes the retention of the placenta gave rise to profound shock quite apart from hæmorrhage.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was held on May 10th, Dr. R. H. Woods of Dublin, the President, being in the chair.—The President showed a case of Accidental Cut-throat which had healed in such a way that a cicatricial diaphragm had formed from the vertebræ to the epiglottis at the level of the hyoid bone, cutting off all communication between the nose, mouth, and pharynx above and the larynx and œsophagus below. Respiration and feeding had been carried on through an opening in the thyro-hyoid membrane. When first taken to Dr. Woods the patient had not spoken or breathed through her mouth for 15 months. The pharynx above the stricture held a pool of saliva, which could only be emptied by the patient

holding her head forward and allowing the fluid to run out. The three difficulties, that of breathing, that of swallowing, and that of the saliva, were solved by dilating a pin-hole opening found in the diaphragm and so providing an air-way, feeding being carried out by a tube inserted into the gullet through the opening in the front of the neck, and the accumulation of saliva being got rid of by a specially constructed cannula which provided a breath-way, while a small "by-pass" connected with an air-pump was attached to the patient's belt, and supplied a means of getting rid of the annoyance experienced from the continual collection in the upper cul-de-sac.—Dr. J. Dundas Grant and Mr. J. Bark expressed their admiration of the exhibitor's ingenuity in solving the difficult problems presented by this case.—Mr. W. Stuart-Low showed a case of Frontal Sinusitis in a girl, a sufferer from epilepsy, in whom no fit had occurred since the operation of opening the sinus had been performed three months previously. At the operation the sinus had been found to be packed with mucous polypi. Both sinuses had been cleared out through one opening by breaking down the intersinusal septum.—Mr. W. J. Chichele Nourse read notes of a Fatal Case of Otitic Cerebral Abscess and Meningitis. The patient, a healthy man, aged 60 years, had suffered from ear-discharge for 12 months. Frequent and transient attacks of earache in the right ear preceded the onset of the fatal illness, which was marked by a rigor. Some days later headache, drowsiness, and delirium appeared. On admission to hospital the patient was semi-comatose. Examining with Siegle's speculum a large piece of cholesteatoma was aspirated from the attic. There was no optic neuritis. Two operations were performed for the relief of the patient's symptoms. At the first, a large temporo-sphenoidal abscess was drained through a fistulous opening in the roof of the mastoid antrum. At the second, the lateral sinus was exposed and examined and the temporo-sphenoidal lobe and the cerebellum were opened into through trephine openings, without, however, altering the course of the illness, which terminated fatally 11 days after the first rigor. The necropsy showed that death had been caused by purulent meningitis.—This being the last meeting of this association as an independent entity, Dr. Dundas Grant read an interesting paper reviewing the history of the society since its establishment in 1888.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on June 7th, Dr. Leonard P. Mark, the President, being in the chair.—Dr. A. W. Addinsell read a paper on Metritis, illustrated by lantern slides and photographs. The paper dealt more particularly with the morbid anatomy and pathology of those cases of metritis considered to be due to chronic infection, especially as a result of gonorrhœa. In the intractable cases marked by severe and exhausting hæmorrhage, hysterectomy was considered to be generally indicated.—The paper was discussed by the President, by Dr. J. A. Mansell Moullin, and by Dr. G. D. Robinson who referred to the good results obtained by curettage followed by the application to the cavity of the uterus of pure nitric acid.—Dr. D. Arthur read a paper on Some Aspects of X Ray Work, also illustrated by lantern slides, and spoke in detail of the diagnostic value of skiagraphy in thoracic diseases, insisting on the significance of difference between the diaphragmatic excursions on the two sides, as shown by the use of the screen, in those cases of early pulmonary tuberculosis in which no apical deposit could be demonstrated. Dr. Arthur also explained the method of taking ortho-diascopic tracings, and pointed out its extreme value in enabling the localisation of intra-thoracic conditions such as abscess or tumour. An interesting account was also given of the manner in which different positions were assumed by the heart in certain circumstances of disease.—A discussion followed, in which Dr. A. J. Rice Oxley and Mr. W. McAdam Eccles took part.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of this society was held on May 30th, Dr. W. C. Chaffey, the President, being in the chair. For the ensuing year Mr. H. H. Taylor was elected President; Dr. Chaffey and Mr. J. Turton, Vice-Presidents; Dr. W. A. Hollis, treasurer; Dr. R. J. Ryle, honorary librarian; Dr. C. H. Benham, Dr. P. S. Eves, Dr. W. Watson Griffin, Dr. E. Hobhouse, Mr. R. F. Jowers, Dr. F. J. Paley, Dr. L. A. Parry, and Mr. H. Stott members of the council; and Dr. Walter Broadbent and Mr. W. A. Bowring, honorary secretaries.

Reviews and Notices of Books.

Metabolism and Practical Medicine. By Professor CARL VON NOORDEN of Vienna. Vol. I.: The Physiology of Metabolism, by ADOLF MAGNUS-LEVY (Berlin), pp. 452. Vol. II.: The Pathology of Metabolism, by VON NOORDEN, KRAUS, SCHMIDT, WEINTRAUD, MATTHES, and STRAUSS, pp. 525. (Vol. III. not yet received.) Issued under the editorship of I. WALKER HALL, M.D. Vict. London: William Heinemann. 1907. Price of the three volumes £2 12*s.* 6*d.* net.

THIS is a translation of the second edition of von Noorden's well-known "Text-book of Metabolism" with some additions to the German text and enlargement of the bibliography by the inclusion of recent English, American, and other papers. It may be said that until comparatively lately the scientific examination of the processes of metabolism was almost confined to German, French, and Italian investigators, but within the last 20 years English and American workers have contributed largely to this branch of scientific medicine.

Perhaps the scope of the first volume will be best understood by giving the titles of its main chapters: I., Foodstuffs; II., Digestion and Absorption; III., Fate of the Foodstuffs in the Tissues; and IV., Metabolism in Man under the following heads: Total Energy Exchange, Nitrogenous Metabolism, Influence of Muscular Work upon Metabolism, Influence of Sexual Processes, the Rôle of Water, Mineral Substances, and Metabolism in Old Age. The translation has been done by several workers, but surely A. "Oberndorfer," one of the translators, is a misprint for Oberdorfer. In Chapter I. we find (p. 3) the following: "The fats and proteins are partly vegetable and partly mineral"—mineral is obviously a mistake for animal. In the discussion on the constitution of the protein molecules, which differ so much amongst themselves, reference is made to the striking fact discovered by Fischer and his pupils that leucin occurs to the amount of from 20 to 29 per cent. in casein and globin, while tyrosin is at most from 1 to 4·5 per cent. In globin 10·96 per cent. consists of histidin.

The chapters on foodstuffs and digestion and aborption (pp. 64) give a general review of these subjects. More interesting, however, is the third chapter which deals with the fate of foods inside the body. It used to be taught that the "purpose" of the splitting up of protein in the intestine was to make it soluble and capable of being absorbed. Its "significance," however, is that it enables the albumin of the food to be changed into the albumin of the tissues, and as these two forms differ in both the number and the combination of their C-containing nuclei a more or less extensive preliminary decomposition is inevitable. The recent investigations show that it is not peptones and albumoses but the products of a more advanced splitting up of the protein molecule which are the "building stones" from which the proteins of the tissues are reconstructed. The reconstruction probably does not take place in the intestinal wall, as was supposed by Neumeister and Hofmeister, because this tissue alone caused peptone to vanish. Since Cohnheim has proved that the peptones vanish, not because they are built up, but because they are broken down, it is doubtful if the synthesis—as is the case with fats—takes place in the intestinal wall and the question arises, Are the tissue proteins built up from the fragments of the protein molecules in the blood by the various organs of the body? This supposition is by no means indispensable, for the organism is certainly able to convert specific proteins of the organs into other kinds and therefore would be able to build up organ-protein out of neutral protein present in the blood. This is the case in the growth of the sexual organs at the expense of the vanishing lateral

muscles in the fasting salmon. Thus the organism is able to interchange the proteins of its tissues. On this view the intestine would hand on half-manufactured stuff made out of the raw material which it receives but the organs would perfect the work and produce the finished article.

When we come to the forces that decompose proteins in the animal body recent investigations have shown that in almost every organ there exist specific ferments which act on proteins and others on fats and carbohydrates. Salkowski was the first to recognise the intracellular operation of ferments like pepsin or trypsin—a process now known as "auto-digestion" or "autolysis." These ferments do not originate in the alimentary canal. Round this question hangs that of the splitting off of ammonia and urea formation. The view long held that fat comes from protein owing to "fatty degeneration" is a view that it seems must now be discarded. There is an excellent chapter on Uric Acid and Purin Bases, dealing with these bodies in their chemical and in their physiological and pathological relations. The metabolism of fats and carbohydrates is fully considered, but perhaps to the physician the discussion on acetone bodies will prove of interest owing to the frequent occurrence of these substances in certain diseases. In acetonuria the source of the acetone is not the carbohydrates. Many additional references to this subject will be found in Vol. II. When we come to the energy side of the problem we find many excellent chapters. Zuntz gives valuable hints as to cycling for invalids: "As the feeling of fatigue is much less in cycling for a given amount of work than it is in walking there is much greater danger of overstrain in the case of the former than in other forms of exercise. This is true for a healthy person and much more so for an individual suffering from cardiac or pulmonary disease." Medical men will be interested in the chapters on Gaseous Exchanges, more especially on the Therapeutic Applications of Oxygen (Vol. I., p. 257), and that on the Lower Limits of Protein Intake, which includes a survey of the recent experiments of Chittenden. The remarks on massage and metabolism will also be read with advantage: "The direct effect of massage has been extraordinarily over-estimated." The metabolism during pregnancy and lactation is very fully dealt with. Not the least interesting chapters are those on water, salts, and old age.

The second volume is one that will undoubtedly attract the attention of the practitioner of medicine. To show its scope and interest we mention its leading contents: Hunger and Chronic Starvation and Overfeeding (C. von Noorden, pp. 1–69), Fever and Infection (F. Kraus, pp. 90–167), Diseases of the Stomach and Intestines (A. Schmidt, pp. 169–211), Diseases of the Liver (W. Weintraud, pp. 229–96), Diseases of Respiration and Circulation (M. Matthes, pp. 304–39), Diseases of the Blood (H. Strauss, pp. 350–420), and Diseases of the Kidneys (C. von Noorden, pp. 433–510). This is really an account of metabolism of diseased conditions, such as gives the reader an insight into the secret processes going on under the most diverse conditions. The practitioner must not look for the treatment of the corresponding diseases, for of that there is none. The results set forth if carefully studied will give him an insight into the processes that are going on in his patients and will lead him to attach more importance to certain symptoms both from a diagnostic and prognostic point of view. Where all is so excellently well set forth it is difficult to select a chapter for comment. The one on Fever and Infection strikes us as particularly thoughtful and suggestive, and though the two subjects are allied yet different it is well that the resemblances and differences should be set forth. This chapter should be read by every practitioner of medicine.

We have said enough to show how attractive is the whole subject and how well it is set forth, with a wealth of detail both of physiological and of pathological facts. Indeed teachers of physiology, as well as of pathology and medicine, would do well to study it carefully, for in the end what is the pathology of metabolism but a variation of physiological metabolism. No sharp line divides them. The literature is particularly copious, but we are struck by the fact that in some subjects the data given reach only to 1895 or even 1886. Another remark, and that is the paucity of references to English names. It may be that English and American writers have not worked at these subjects.

Dr. Walker Hall and his collaborators have done good service in presenting this work in its English garb. We wish it every success and we feel sure that those who read and study it will not only profit thereby but they will get new inspiration for the study of those diseases which they may be called on to treat. Such a work forms a true basis for the philosophic study of the ever-active exchanges and the varied phenomena—both those of matter and energy—which accompany the metabolic processes in health and disease.

Tropical Medicine, with Special Reference to the West Indies, Central America, Hawaii, and the Philippines, including a General Consideration of Tropical Hygiene. By THOMAS W. JACKSON, M.D., Lecturer on Tropical Medicine, Jefferson Medical College, Philadelphia. With 106 illustrations. London: Rebman, Limited. 1907. Pp. 536. Price 17*s.* net.

WE welcome this contribution to tropical medicine, coming as it does from America, for although the English, German, and French authorities have given us excellent text-books on the subject, we have had none up to the present time from America. The author in his preface draws attention to the claims of tropical medicine upon American interests and shows how, without volition on their part, the American people have become responsible for the government and education of millions of men and women in distant parts of the world, including in them the tropical regions.

He first gives a lucid introduction and a general consideration of tropical hygiene. Under this heading he notes the facts as regards personal cleanliness and here we regret to notice that he does not warn his readers against the use of the cold bath, which, in India at least, is a sure means of exciting congestion of the liver, so much so that cold water bathing is practically non-existent. The subject of appropriate and nourishing food and of suitable clothing is next considered, and here again we find no mention of the importance of a red lining to a helmet to ward off heat-stroke. Exercise, rest, and the avoidance of heat and exhaustion are then considered. The measures of protection against infection are fully entered into as regards water, food, clothing, contagion, and the bites of insects and vermin. The account of mosquitoes is full enough for all practica purposes.

The author proceeds to describe the various diseases met with in the tropics which he classifies under the three heads of (1) systemic diseases; (2) animal parasitic diseases; and (3) diseases of undetermined or uncertain causation, local and constitutional, and skin diseases. The first disease treated of is cholera; the account of the symptoms given is excellent. We note, however, that Dr. Jackson holds that leucocytosis or its absence has no diagnostic or prognostic value in the disease. This is quite contrary to what has been found in India, where, as pointed out by Major Leonard Rogers, I.M.S., leucocytosis has a significance in that, well marked as it is in the disease generally, it is most marked in the severest and most fatal cases. With regard to the treatment, his experience fully bears out the opinion of Mr. Haffkine on the value of inoculation. The author does not mention the evacuant plan of the late Sir George Johnson or allude to his lucid theory of

collapse. Beri-beri is next dealt with, and the clear classification of Dr. Hamilton Wright, who has done so much good work with regard to this affection, is followed. The author thinks the ultimate cause is a microbic organism gaining entrance into the body usually by the alimentary tract but also by the inspired air or through a lesion of the skin. The convincing experiment instituted by Baron Takaki concerning one method of the causation of beri beri is detailed. In the treatment due attention is drawn to the management of the cardiac crises that are so likely to arise.

Plague is the next subject which is dealt with in this work. Here the recent reports of Professor W. J. R. Simpson are alluded to, as well as the important facts which these reports brought out. Attention is directed to the conveyance of infection by the healthy through the medium of infected clothing, whilst emphasis is placed on the part played by infected rats. The questions of serum therapy and of the treatment by large doses of carbolic acid, as instituted by Dr. J. C. Thomson, receive due attention. Dengue is then described and after this the important subject of tropical dysentery receives attention. With reference to amœbic dysentery, we are glad to see that the author does not give this title as synonymous with tropical dysentery for he shows that tropical also embraces bacterial dysentery. In the description of this form of the disease, otherwise fairly complete, we fail to find any account of Major Rogers's important post-mortem findings which certainly differ from those of bacterial dysentery in a remarkable manner. Dr. Jackson's opinion of the treatment of amœbic dysentery with massive doses of ipecacuanha is that it is of no value. In the consideration of the subject of amœbic abscess of the liver the author details Mr. J. Cantlie's valuable researches as regards the depth to which the trocar may puncture the organ without damage to the vena cava. In the section on bacillary dysentery Shiga's well-known researches are given. In the treatment of this form the author does not speak in favour of ipecacuanha but recommends the administration of salines with the use of intestinal antiseptics, thereby giving a fresh instance as to the manner in which the treatment of dysentery varies with the special locality in which the disease is rife.

Space forbids us to deal adequately with all the subjects mentioned in this valuable work. The chapter on leprosy is illustrated by some excellent drawings and we are glad to see Radcliffe Crocker's treatment with injections of sozoiodol—not bichloride as in the text—of mercury mentioned. The chapters on malarial and Malta fevers are both excellent; the latter is fully up to date, the facts concerning the part played by goat's milk being mentioned. Yellow fever, knowledge of the correct etiology of which disease we owe to the American physicians, is well described. The diseases due to animal parasites receive their due attention, as do those of undetermined or uncertain causation and skin diseases. We heartily congratulate the author on the production of this work.

High-Frequency Currents. By H. EVELYN CROOK, M.D., B.S. Lond., F.R.C.S. Eng., formerly Assistant in the Electro-therapeutical Department, West London Hospital, &c. London: Baillière, Tindall, and Cox. 1906. Pp. 206. Price 7*s.* 6*d.* net.

WE welcome this contribution to the study of high-frequency currents and we think that it may be said to be the best work on the subject by a British author up to the present. While the book is well arranged a good deal of the matter in the preliminary chapters might have been omitted, as it is a fair inference that the person about to study high-frequency phenomena is already conversant with the elementary principles of electricity. The work may be said to begin at the commencement of Chapter VIII., in which the author deals with the physical properties of high-frequency electricity. A separate chapter is devoted to each of various classes of phenomena and these are followed by two chapters describing the different methods by which this form of electricity is applied for purposes of treatment. In Part II. are seven chapters, each of which is devoted to the consideration of effects produced on the different systems of the body, as also on heat production and on micro-organisms. The author has carefully summarised in this section all the information so far available and it is expressed in a very lucid and concise manner and the same remark applies to Part III. which deals with therapeutic applications.

We must confess to a sense of disappointment in that the author has given so little of his own personal observations and experiences. As a matter of fact, the two most important of the three sections of the book are made up almost entirely of the experiences of other investigators and for this reason it is to be regarded as an excellent compilation rather than as an original contribution. At the same time the work is a valuable one and should be in the hands of everyone seriously interested in the subject.

LIBRARY TABLE.

The Practical Medicine Series. Comprising ten volumes on the year's progress in Medicine and Surgery. General Editor: GUSTAVUS P. HEAD, M.D. Vol. I.: General Medicine, edited by FRANK BILLINGS, M.S., M.D., and J. H. SALISBURY, A.M., M.D. Series 1907. Chicago: The Year-Book Publishers. (Sole Agents for United Kingdom: G. Gillies and Co., Glasgow.) Pp. 364. Price 5*s.* net. (Complete series of ten volumes per annum £2 2*s.* net).—The scope of this year-book is somewhat more ambitious than that of others of its class, as in the ten annual volumes not only do the chief new methods of treatment and diagnosis come under review but the editors also include a good deal of old teaching that has been recently re-stated; this plan has its own merits but it renders the task of selection more difficult. As an example, many will find fault with the judgment that helped to perpetuate the old fallacy that the limit of percussion dulness of a normal heart does not extend beyond the right margin of the sternum. The book, however, does contain some valuable information and has evidently been carefully compiled. We understand that general medicine will be further considered in a supplementary volume. The present one contains over 100 pages about tuberculosis, in which all the heads of that complex subject are touched upon; then follows a chapter on diseases of the respiratory system. Under Pneumonia there is an editorial note deprecating the attempt to abort the disease by drugs, *pace* the enormous doses of quinine and iron advocated by Galbraith on the next page; the vexed question of alcohol in the treatment of this disease receives no editorial verdict. Diseases of the heart and blood-vessels are treated in 120 pages and form a very useful section; interesting observations on cardiac dynamics, and on such rare conditions as Stokes-Adams disease are recorded. In this respect (p. 204) an unfortunate misprint reads "interarticular" for "interauricular" septum. The present interest in blood pressure finds adequate expression, and diseases of the blood are also noticed. Acute rheumatism is rightly classed amongst the general infections and Poynton's and Paine's experiments towards establishing the specific claims of the rheumatic diplococcus are recorded. The book concludes with an account of recent work on certain general disorders and on diseases of the kidney in which the significance of albuminuria and variations in the salts content of the urine are discussed by various authorities. Throughout the book quotation is made from a great variety

of sources and it is one that the busy practitioner may well find of use in his practical work no less than in his education in recent theory.

Our Sons: Their Start in Life. Reprinted from *The Guardian*. Second edition. London: *The Guardian* Office. Pp. 122. Price 2*s.* 6*d.* net.—This is a useful little book containing a series of articles on schools, the universities, the navy, army, and civil services, the medical and legal professions, engineering, surveying, farming, "the City" occupations, and secretarial work, and also on the various callings open to women. It contains in a handy form information as to the various means of entering these professions, the cost of training for them, and a brief discussion of their advantages. In discussing medicine we think that the author would have done well to lay more stress on the advantages of every student at least trying for a medical degree. Some men certainly do not realise this fact until, for various reasons, it is too late for them to take a matriculation examination. The total expense for the five years for "education, examination fees, books, and instruments" is set down at about £230. To many this will seem a low figure but a brief computation assures us that it is not unreasonable, although £250 would be nearer the mark for most men. The London medical student will be pleased to hear that in the author's opinion it is necessary "to utter a word of protest against the common idea of his personality. At times he shows the exuberance of spirits which is not surprising or reprehensible at his time of life, but even then he does not forget that he is a gentleman. He works hard and steadily." There are brief notes on the profession of medicine and nursing as occupations for women.

Crutches to Help Cripple Children.—We have received from Messrs. Bemrose a copy of a publication issued by them, entitled "Crutches to Help Cripple Children." In a covering letter they state that it is sent at the request of the Lord Mayor of London in aid of his lordship's Cripples' Fund. They further ask us to draw attention to the publication and this we have great pleasure in doing, for the helping of cripple children is a most worthy object. Criticism of the writers and artists who have contributed to the publication is not necessary in this place. All kind-hearted people will be grateful to those who have so contributed. But on p. 47 we notice a flaming advertisement from the person who calls himself "Dr." Bodie. He now runs an Electric Drug Company and boasts of having cured "hundreds of hopeless cases of paralysis discharged from the leading London and provincial hospitals." This statement in itself should have been sufficient to prove to the advertisement manager of "Crutches to Help Cripple Children" that he was accepting the money of a quack and in so doing by no means serving the true interests of a publication intended to enlist sympathy for what is a most deserving charity.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—In an article on exophthalmic goitre in the May number of this journal Sir J. Halliday Croom concludes that the influence of pregnancy on this disease is very uncertain but tends to aggravate it; nevertheless, the subjects of Graves's disease need not be precluded from marrying or from becoming pregnant. Incidentally he quotes the opinion of Dr. T. D. Luke that exophthalmic goitre is one of the most dangerous conditions for the administration of a general anæsthetic. Mr. George A. Peters discusses the treatment of gall-stones in the gall-bladder and cystic duct and the indications for the different methods of procedure, and Dr. J. Eason writes on phagocytosis of erythrocytes in paroxysmal hæmoglobinuria. Dr. Ian Struthers Stewart and Dr. C. L. Peel Ritchie in a joint paper maintain that a negative phase in the opsonic index produced by injection of tuberculin is evidence of the existence of tuberculosis and that the absence of such a fall in the index shows freedom from the infection.

The Dublin Journal of Medical Science.—In the May number of this magazine Dr. G. A. Gibson continues his review of the debt which we owe to Ireland with regard to the study of the circulation. Dr. J. Magee Finny records a case of maniacal chorea—one of the rarest of diseases, which is scarcely noticed in many text-books of medicine. The affection was apparently of rheumatic origin in this case but after death no organisms could be cultivated from the blood. The mental condition was maniacal in type, with delusions, hallucinations, and finally a semi-comatose state. In a short note on the detection of organic poisons in animal matter Mr. Marius Esposito revives a method proposed by Flandin in 1853—the substance being dried with quick-lime, powdered, and extracted with boiling absolute alcohol—which he believes is capable of giving good results.

The Medical Chronicle.—A Presidential Address on the Diagnosis of Early Pulmonary Tuberculosis delivered by Dr. S. Moritz before the Manchester Medical Society and published in the May issue of this magazine is notable for the review which it contains of some of the modern laboratory methods of diagnosis of this disease. Dr. Moritz speaks hopefully of the method of serum diagnosis introduced by Arloing and Courmont but is inclined to regard the injection of tuberculin as dangerous and places no faith in the opsonic index or its variation after the administration of tuberculin as a diagnostic sign. He concludes that repeated examinations may be needed to establish the presence or absence of tuberculosis. Dr. Gordon O. Lambert contributes an abstract of a thesis dealing with the effects of fever on the myocardium but the summary is so brief as to be rather unsatisfying.

The Birmingham Medical Review.—Of the problems which the x rays are called upon to solve, that of the presence of calculi is one of the most common. In an interesting article in the April number of this review Mr. J. Hall-Edwards discusses the present state of our knowledge in this field, and concludes that little help is obtainable in the diagnosis of gall-stones or of pancreatic calculi, while it is not often that prostatic concretions will be thus revealed. In the case of renal stones reasonable certainty can be obtained with skill and care. He discusses the methods adopted by different observers to obtain accuracy in this connexion. Dr. G. P. Mills traces a connexion between excretion of purin bodies and some irregular rheumatic conditions, and Dr. W. A. Potts discusses some cases of hæmorrhage met with in obstetric practice.

MEDICAL GOLFERS AT ASHFORD MANOR.—A team of medical golfers played the Bar Golfing Society at Ashford Manor on June 1st. The singles ended in a tie but the barristers won the foursomes and the match by five matches to four.

SINGLES.

Barristers.	Matches.	Medical men.	Matches.
Mr. Bernard Darwin	0	Mr. G. R. Girdlestone	0
Mr. J. Crabb Watt	1	Dr. W. G. Howarth	0
Mr. D. D. Robertson	0	Dr. H. J. F. Simson	1
Mr. T. Simpson	0	Dr. A. H. Vassie	1
Mr. L. Mossop	1	Dr. J. Curtis Webb	0
Mr. G. R. Venables	0	Dr. H. P. Hawkins	1
Mr. L. Davis	0	Dr. Chittenden	0
Mr. Montagu Shearman, K.C.	1	Dr. H. Low	0
Total	3	Total	3

FOURSOME

Barristers.	Matches.	Medical men.	Matches
Mr. Darwin and Mr. Watt ...	0	Mr. Girdlestone and Dr. Howarth	1
Mr. Robertson and Mr. Simson	1	Dr. Simson and Dr. Vassie	0
Mr. Yossop and Mr. Venables	0	Dr. Webb and Dr. Hawkins	0
Mr. Davis and Mr. Shearman	1	Dr. Chittenden and Dr. Low	0
Total	2	Total	1

Aggregate—Barristers, 5; Medical men, 4.

THE LANCET.

LONDON: SATURDAY, JUNE 15, 1907.

The Orations before the American Medical Association.

THE orations delivered at the fifty-eighth annual session of the American Medical Association held at Atlantic City from June 4th to 7th were such as to appeal to a very high tone alike of scientific and of professional thought, and to display a complete recognition both of the true foundations of medical activity and of the directions in which that activity may most usefully be exerted. In one important particular, at least, our transatlantic brethren have made advances which it is difficult for us to contemplate without some tincture of envy, for they have succeeded, almost completely in Pennsylvania and in varying degrees in other States and Territories of the Union, in placing public health under the effective protection of competent authority and in rescuing it from the clutches of the ignorance, official or non-official, which in this country is so constantly permitted to prohibit or to impede the due application of knowledge. Dr. SAMUEL G. DIXON, "Commissioner of Health of the Commonwealth of Pennsylvania," took as his subject, "Law the Foundation of State Medicine," and was able to describe "the most comprehensive and effective legislation for the protection of the public health ever enacted," and to say that, "armed with these strong and well-conceived laws," the administrators of the State had been able to accomplish certain definite results which had attracted the attention of sanitary reformers in all parts of the Union. The first and most important step in the indicated direction appears to have been the establishment of the office which Dr. DIXON holds, that of "Commissioner" or official head of a State board of health, with a seat in the Governor's cabinet, and with large executive powers. Among these a chief place must be accorded to a very complete system of control over the water-supply of the State, a system under which no new waterworks, no addition to works already existing, and no new system of sewerage or modification of an existing system, may be made without a permit from the Commissioner, a permit only to be granted after minute inquiry into existing conditions and into the nature and probable effects of the changes proposed. The prevention of the fouling of existing streams or gathering grounds is also among his duties, and the Board over which he presides has obtained State legislation for the immediate registration of births and deaths, for the notification of infectious diseases, for the gratuitous supply of antitoxin, and for the appointment of State health officers and county medical inspectors. A considerable freedom of local self-government has been preserved, but with the provision that if the Commissioner finds the sanitary administration of any municipality so faulty as to be a source of danger to the public he is authorised to step in and to assume complete control. Where our Local Government Board can only describe and recommend the Commissioner of Pennsylvania can take any action which the circumstances may require. The result is a "State system of sanitary administration, complete and symmetrical, its head at the seat of power in the State, untrammelled in the exercise of authority, reaching down through the subdivisions of county and township to the people, and in daily touch with every nook and corner of the State through its faithful allies, the physicians of the commonwealth." Dr. DIXON rightly admits that if this system should fail to accomplish great things for the health and happiness of the people the failure will be the result, not of the system, but of incompetence in its administrator.

If we compare the Pennsylvanian legislation as thus described by its official head with the state of things obtaining among ourselves, it is impossible not to be impressed by the complete difference not only in point of detail, but also, and even more remarkably, in principle. Pennsylvania regards sanitary administration as a department of government which is not only of the first necessity but which can only be conducted by the aid of knowledge; while the British Parliament has virtually decided that it is comparatively unimportant, that knowledge is unnecessary for its control, and that residence in the locality is the essential qualification. SMITH may be as ignorant as a horse of everything relating to the causation or prevention of disease, or he may have a direct pecuniary interest in the maintenance of some insanitary condition; but if JONES and ROBINSON, who are as ignorant and possibly as corrupt as himself, choose to select him as their representative on the local "authority," whatever it may be, there is no appeal from his ignorance or his ill-doing. Typhoid fever and diphtheria may prevail in his district, and the local schools may become institutions for the diffusion of epidemics; but SMITH, like MILTON'S Chaos,

> "Umpire sits,
> And by decision more embroils the fray."

The Local Government Board may send down inspectors to inspect and the inspectors may report and may recommend, but SMITH remains master of the situation and nothing can disturb him if only JONES and ROBINSON are true to their allegiance at the next municipal election. Dr. DIXON truly declares that "on State medicine depends the happiness of our people and the success of our nation. The industries on which we depend for our comforts, the wealth which enables us to enjoy them, and the arts which adorn and diversify our lives, are but the fruitage of the tree whose root is health." He draws a vivid picture of the applied sanitary science which enabled the Japanese to conduct on a gigantic scale and under the most adverse conditions a war in which the deaths and disabilities from disease were actually less than those from wounds, in which indeed the mortality from general causes scarcely exceeded that of the ordinary conditions of life; and he contrasts this with the fact that America, from mere impatience or neglect of laws with which she was well acquainted, "lost manyfold more of her brave troops on her own soil by preventable disease than by shot and shell at the seat of hostilities." Finally, he fully recognises that during conditions of ordinarily good public health the majority of mankind are neither wise enough

voluntarily to submit themselves to the requirements of sanitary law nor righteous enough to be willing to exercise self-denial in order to save others from sickness, suffering, and death. He holds law and its enforcement to be necessary and urges that what is necessary for the State must, in order to be fully effectual, be extended to the Union. In no other way, he declares, can the health of a nation be preserved or the degeneracy of a people be prevented.

We have left ourselves but little space in which to notice the presidential address of Dr. JOSEPH D. BRYANT or the oration corresponding to the "Address in Medicine" at a meeting of the British Medical Association which was delivered by Dr. JAMES B. HERRICK of Chicago on the Relation of the Clinical Laboratory to the Practitioner of Medicine. Dr. HERRICK believes, what we think is to some extent true of this country as well as of others, that there is a tendency unduly to exalt the importance and the conclusiveness of the work of the clinical laboratory as compared with the results of careful observation at the bedside; and the essence of his learned and thoughtful address is an endeavour, without in any way minimising the former, to maintain the essential importance of the latter. The influence of the laboratory is but an extension of that which has been exerted for many years by the invention of continuously improving instruments of research, which, when they have not opened entirely new ground, have sometimes been conducive to undue neglect of older methods of examination and, what is of even more importance, to loss of the skill which those older methods had required and had tended to develop in those who followed them. There can be very little doubt, for example, that the facile application of the clinical thermometer has diminished the watchfulness of the average practitioner over variations of a less tangible and less easily ascertainable kind; or that the use of the sphygmometer, while increasing the knowledge of careful students of the character and variations of the pulse, might tend to diminish the *tactus eruditus* by which the physicians of an earlier generation strove against the difficulties of interpretation presented by what CELSUS called the *res fallacissima*. Precisely in proportion to the value of any method of laboratory diagnosis will be its liability to lead to erroneous conclusions in comparatively unskilled or careless hands; and Dr. HERRICK forcibly maintains that diagnosis should rest upon a due balance between clinical and laboratory observations, neither series being considered without reference to the other and each contributing its due quota to the conclusion. It is, after all, to the aggregation of phenomena—that is to say, to the sick man himself—that the attention of the practitioner should be primarily directed; and the proper function of the chemist, the bacteriologist, or the histologist is to determine the value of some portion only of the whole. The laboratory conclusions of to-day are not always confirmed by the labours of to-morrow; and it may, perhaps, be said of them, in their relation to medical practice, that, like literature, they are better calculated to furnish a walking stick than a crutch.

The presidential address of Dr. BRYANT was concerned, to quote Dr. BRYANT'S own words, with—

(1) The organising of the medical profession of the country and its potential perplexities; (2) the elevating of the standard of medical education and its possible afflictions; and (3) the urgent demand for trustworthy medicinal means and of sincerer efforts on the part of every physician in securing a betterment of therapeutic methods.

The organising of the medical profession in a vast country like the United States of America is naturally a much more arduous task than in a small and compact country like our own and even among ourselves the unity of the profession is still far from being a fact. Dr. BRYANT is fully alive to the enormous benefits which a national Board of Health would confer, but he is not sanguine about the attainment of this ideal. He is by no means blind to the possibility of a highly organised body developing into a tyranny, but he looks forward to a time

when, by the aid of Divine Providence, the medical profession of the United States shall have been made into "one compact organisation" and impelled in dutiful desires only by the highest motives of professional purpose and of public welfare, no enlightened opposition will oppose its desires, nor will irrational outcry, nor vagrant motives, find patient listeners or available foothold in the councils of the organisation or in those concerned in the requirements begetting of public confidence and respect.

And surely we, too, may pray for the coming of a similar time as regards our own land.

The Simultaneous Occurrence of Intra-uterine and Extra-uterine Pregnancy.

THE occurrence of a multiple pregnancy in which one ovum is situated within the uterus and the other external to its cavity is a matter of much importance, not only because of the difficulties attending the diagnosis but also because of the dangers to the mother which accompany this abnormality. With a view to collating our knowledge upon this condition Dr. FR. VON NEUGEBAUER of Warsaw has collected a series of 169 cases from the literature and has added two observed by himself, or a sum total of 171 cases. The results he has embodied in a very valuable monograph[1] in which he sets out fully the conclusions at which he has arrived from his extensive study of the subject. More than half the total number of cases have been published during the last 12 years, no doubt because of their more frequent recognition by operation at the present day. An analysis of the histories given shows that four of the women had previously had twin or triplet pregnancy, while in four of the cases recorded there were three ova present. In three of these instances the twins were found in utero and in one case they were extra-uterine. Two of the patients had already undergone an abdominal section for an extra-uterine gestation. Dr. NEUGEBAUER points out that an examination of the site of the extra-uterine ovum reveals the fact that no less than nine of the cases, or 5·3 per cent., were examples of interstitial pregnancy, while in six the extra-uterine ovum was said to have been situated in the ovary.

The extreme difficulty of diagnosing this condition is shown by the fact that in only seven cases was a correct diagnosis made and confirmed by abdominal section; in eight cases the complication was, however, suspected, while in 21 it was found during delivery, or soon after delivery,

[1] Zur Lehre von der Zwillingsschwangerschaft mit heterotopem Sitz der Früchte, Fr. von Neugebauer. Leipzig: Klinkardt, 1907.

that another extra-uterine fœtus was present. In 24 instances the correct solution of the case was only arrived at by a post-mortem examination. The conditions under which a correct diagnosis is most likely to be made are naturally those in which a patient the subject of an intra-uterine pregnancy is suddenly seized with the classical symptoms of the rupture of a tubal gestation. The further the normal pregnancy has progressed the easier will be the diagnosis; the most important point, however, is that the practitioner should bear in mind the possibility of such an occurrence and in all cases of doubt recommend an exploratory laparotomy so as to make certain of the exact state of affairs even at the risk of causing an abortion. In view of the heavy mortality of the children in these cases every care must be taken to safeguard the life of the mother, even at the risk of that of the children, except, of course, in such cases as, for example, one of inoperable carcinoma in which the mother obviously has only a short time to live. If it seems certain that the extra-uterine child is dead then operation may be postponed until after labour has occurred, so long as the ectopic fœtus does not offer any undue difficulty to the completion of delivery. With regard to the results as concerns the children, in 49 cases a living child was born from the uterus, while in no less than four cases a living extra-uterine fœtus was delivered by abdominal section and a child was born alive by the natural passages. Of 154 cases, 54, or 34·6 per cent. of the intra-uterine children, reached full term, and of these 49, or 31·3 per cent., were born alive; of the extra-uterine children, on the other hand, only 32, or 21·4 per cent., reached full term, and of these only 4, or 2·7 per cent., were delivered alive. A very remarkable fact is that in no less than 29 cases both children reached full term, while in one case of a triplet pregnancy, in which two of the children were intra-uterine and one was extra-uterine, this also occurred. Amongst 83 cases in which abdominal section was performed during pregnancy or soon after delivery 17 of the mothers died, or a death-rate of 19 per cent. The importance of treating these cases by abdominal section is seen by the fact that of 87 women operated upon in this way 70, or 80 per cent., recovered, while of 67 not treated by operation no less than 31 died. Unfortunately in most instances the cases have not been reported in sufficient detail to enable the important question to be determined as to whether the two ova were derived from one or from both ovaries. With regard to the etiology of this condition Dr. NEUGEBAUER is inclined to regard the intra-uterine gestation as a predisposing cause and no doubt there are some grounds for this view.

The most interesting problem connected with these multiple pregnancies is presented by the consideration whether they are examples of the fertilisation of two ova at the same time or of the occurrence of superfœtation. The different degrees of development of the two fœtuses is not of much value as proof one way or the other since it is not at all uncommon to find twin fœtuses differing very markedly in size and in weight. Further than this, it must be borne in mind that the likelihood of an extra-uterine fœtus being poorly developed in any case is very considerable. The case which is most suggestive of the occurrence of superfœtation in this series is one of those recorded by Dr. NEUGEBAUER himself. In this instance, after the death of the patient from internal bleeding, an eight to ten weeks' old fœtus was found in the uterine cavity and a fœtus of 17 days' growth which had apparently died at the time of the mother's death was found outside the uterus. Professor AHLFELD expressed the opinion when the specimen was demonstrated at Cassel in 1903 that it was an example of superfœtation. The frequency with which both fœtuses attain the full term of development possibly may be due, as suggested by Dr. NEUGEBAUER, to the fact that the normal pregnancy with its accompanying increase in the pelvic circulation favours the complete development of the extra-uterine fœtus. The ectopic pregnancy, however, with its numerous possibilities of complications, certainly endangers the life of the intra-uterine ovum. On the other hand, the death of one fœtus by no means certainly entails the death of the other, for CHROBAK extracted by abdominal section a living extra-uterine child five days after the birth of a full-term child, and WILSON did the same thing 26 days after the delivery of a living child from the uterus. It is impossible to over-estimate the danger of this form of multiple pregnancy, and, as Dr. NEUGEBAUER rightly concludes, the only correct line of treatment seems to be to consider the life of the mother alone and to rescue her from her peril by as early abdominal section as possible.

The Surgery of the Brain.

ON the due attention to details success often depends and of no work is this more true than of the work of the surgeon. Especially important is care in details in the surgery of the more vital organs of the body and in cerebral surgery pre-eminently is there the need of the closest attention to small points. Mr. CHARLES A. BALLANCE in his Lettsomian lectures before the Medical Society of London, which have recently been issued in volume form,[1] dealt with some important matters connected with the surgery of the cranial contents and he showed that one great cause of the excellent results of the present day is the advance in recent years of our knowledge of the structure of the brain and its membranes. Even the three lectures which Mr. BALLANCE devoted to the subject did not suffice for more than a brief consideration of many important points in cerebral surgery but on all the subjects on which he touched fresh light was thrown. The cases narrated were especially instructive. In one case, a patient under the care of Dr. JAMES TAYLOR, a man, 34 years of age, had symptoms suggestive of general paralysis and he narrowly escaped being sent to an asylum with that diagnosis. He had sustained an injury to the head, a considerable hæmorrhage had taken place into the arachnoid cavity, and the blood had become encysted and slowly increasing pressure was exerted on the brain. The "cyst," which was seven inches long, four and a half inches wide, and one and a half inches in thickness, was successfully removed and complete recovery ensued. A number of cases of traumatic encephaloceles have been recorded since Mr. R. J. GODLEE first described the condition in 1885 and Mr. BALLANCE relates a very instructive case occurring in

[1] Some Points in the Surgery of the Brain and its Membranes, by Charles A. Ballance, M.V.O., M.S. Lond., F.R.C.S. Eng. 1907. London: Macmillan and Co. Price 15s. net.

a child four years old, an age greater than that at which the condition usually occurs. The child fell about 20 feet. Left hemiplegia was present with complete aphasia and some paresis of the left third nerve and a hernia cerebri developed. After operation the patient made a good recovery, the hernia cerebri soon disappearing, and two years later speech was almost perfect, except for some slurring during excitement; the weakness of the left leg was nearly gone, though the left hand was still paralysed.

Not many years have elapsed since lumbar puncture was first performed but now it has almost taken a place in the routine examination of certain cerebral and spinal cases in which the diagnosis is difficult, such as meningitis, when it is desirable to distinguish between the tuberculous and the non-tuberculous varieties. Lumbar puncture has also been used to a great extent for the purpose of producing what has been called "spinal anæsthesia," and the method has many advantages, though it has also several dangers and difficulties which were unsuspected by its introducers. Mr. BALLANCE has pointed out that lumbar puncture may also prove of value in traumatic lacerations of the substance of the brain when the patient is passing into the stage of cerebral irritation and he gives a very instructive instance. A man, 21 years of age, was thrown from a horse. The skull was not broken but he was unconscious for ten days. The right arm was paralysed and left ophthalmoplegia was present. The unconsciousness passed off but he became restless, irritable, and sleepless. By lumbar puncture from two and a half to three ounces of red-stained cerebro-spinal fluid were drawn off and on each occasion four hours of quiet sleep followed. Thus lumbar puncture may help both in diagnosis and treatment. When blood is poured out between the dura mater and the skull, as in injury to a meningeal artery or a venous sinus, the cerebro-spinal fluid obtained by lumbar puncture is clear and free from blood, but in cases of laceration of the brain substance or hæmorrhage between the dura mater and the brain, the fluid, as in the case related, is stained with blood. The lumbar puncture was also of distinct value in lessening intracranial pressure and so inducing sleep. Mr. BALLANCE is thus led to suggest that it may, perhaps, be advisable in some cases of ordinary apoplexy to relieve by lumbar puncture the pressure of the clot and serum on the nervous centres. We think the suggestion is happy and though it may prove to be of value in only a few cases it might assist in tiding over the time during which the brain is endeavouring to resume its functions. It is possible, too, that lumbar puncture might prove of service in temporarily diminishing intracranial pressure in case of cerebral tumour in which for any reason it is needful to postpone operation for a time. The operative treatment of internal hydrocephalus is also discussed and several cases are detailed in which this condition has been successfully treated, though it is hardly necessary to say that in these cases the mortality is great. Still, the fact that some of these cases recover after operative interference is very encouraging and should stimulate surgeons to persevere in attempting to improve the surgery of the meninges.

The second lecture on abscess of the brain was of great importance but it must yield in interest to the third which dealt with the surgery of tumours of the brain. It is hardly recognised by the general body of medical men how great has been the advance in recent years in this branch of surgery. Not many years have elapsed since the surgery of cerebral tumours began to exist and even now much of the progress that has been made seems to be unknown to a large proportion of the profession. Many of those who listened to that lecture must have been astonished at the enormous advance in this department of surgery. It cannot be denied that even now the mortality is heavy but in this connexion it must not be forgotten that every case, or nearly every case, is affected with a disease which, if left untreated, is certain to prove fatal. In many cases where recovery from the operation occurs the result is perfect and even when complete recovery does not ensue the improvement is often great or the progress of the disease is stayed. Moreover, statistics show clearly that the mortality is steadily decreasing. Our knowledge of cerebral technique is yearly improving; the surgeon can now with impunity undertake operations which would have been beyond his hopes at one time. We have undoubtedly still much to learn. All operative procedures on the brain disturb greatly its circulation and in hardly any other organ in the body is the maintenance of an equable circulation of so much importance. We are learning to know what can and what cannot be done and if the progress in the next ten years is at all on the same scale as that of the preceding decade we shall indeed see enormous progress. The future is full of hope but even the possibilities of the present are not adequately appreciated.

Annotations.

"Ne quid nimis."

THE NATURE OF INFECTIVITY IN RELATION TO TUMOUR GROWTH.

THE problem of the origin of cancer has always had a marvellous fascination for us all, and the theories that are advanced are almost as numerous as the facts on which those theories must be based. The latest contribution to the subject was contained in an address given by Dr. D. A. Welsh, professor of pathology in the University of Sydney, delivered at the First Australian Dental Congress in February last. An abstract of it appeared in our last issue. Mr. H. T. Butlin pointed out in the Bradshaw lecture at the Royal College of Surgeons of England that, whatever may be the ultimate etiology of cancer, as soon as a cancer cell is fully formed it behaves as a parasite. No longer is it obedient to the laws governing the organism in which it appears, no longer does it work for the good of its original owner, but it lives only for itself and, like a parasite, it flourishes at the expense of its host. Dr. Welsh in the address we have mentioned has carried the analogy a little further. He shows that in all tumours, both innocent and malignant, the analogy with infective processes is extremely great. In an infective process caused by bacteria we may in some cases find a merely localised infection which has no, or hardly any, tendency to spread beyond the point first infected. The infective process may, however, tend to spread locally; it infiltrates neighbouring tissues and has no well-defined limits. Other infective processes may be still more widespread. They do not limit themselves to the spot or neighbourhood where the germ first found entrance but by the channel of the lymph or blood stream reach distant parts of the body. To all these

varieties tumours present very close analogues. The localised abscess caused by the local infection of a bacterium may be likened to the simple, benign tumour. It has a well-defined wall and it has no tendency to stray beyond the site of its first appearance, though it may increase in bulk. The local infiltration of a septic process bears a very close analogy to some tumours of a certain but slight degree of malignancy which spread locally, infiltrating the neighbouring tissues, but have no tendency to form secondary growths elsewhere. The virulent infective processes of pyæmia and septicæmia are very closely comparable with the very malignant growths which spread far from the original site, attacking distant structures by the medium of the blood and lymph streams. In these cases the "infective" agent is the living cell of the tumour, derived from the body in which it lives and not introduced from without. As to the cause of this suddenly acquired activity on the part of a cell of the body, Dr. Welsh has something more to say. He dismisses the idea of any lowly organism parasitically attacking and entering the cell and so causing it to assume the rôle of a cancer cell, and he tells us that the hypothesis has the demerit of being hard to reconcile with some of the known facts of tumour growth, though he does not tell us what these facts are. The theory which he advances is based mainly on the observations of Farmer, Moore, and Walker, that the nuclear divisions observed in some cancer cells are similar to those seen in the reproductive cells and not those which take place in ordinary somatic cells. It is further supported by the observation that some leucocytes have been seen to enter developing cancer cells. These are the foundations of Dr. Welsh's theory. He suggests that the fully developed cancer cell may be the product of the conjugation of a fixed tissue cell and a wandering leucocyte, both cells having undergone the nuclear metamorphoses of reproductive tissue. It has further been shown that developing cells may be induced to undergo increased and abnormal nuclear divisions when the chemical reaction of their environment is altered and especially when the alkalinity of the medium is increased, and there is some evidence that the body fluids of cancer patients commonly exhibit this increased alkalinity, and to this increased alkalinity he looks for the stimulus required. The theory is interesting and would go far to explain many of the phenomena of malignant disease but unfortunately some of its foundations are hardly as firm as could be wished. The work of Farmer, Moore, and Walker on the mitoses of cancer cells was doubtless of great interest but, as we pointed out at the time, its importance could easily be overrated, inasmuch as we were, and are, absolutely in the dark as to the real meaning of the special form of mitosis found in reproductive cells. Moreover, Victor Bonney has clearly shown that "gametoid" mitoses are not specially characteristic of the cells of malignant growths. They occur in perfectly innocent growths, such as the venereal wart. Further, Bashford and Murray have come to the conclusion that the appearances in cancer cells, which were believed to indicate the occurrence of a true "reducing division," i.e., a mode of division resembling that found in reproductive cells, are deceptive, and that the mitoses of cancer cells are really of the ordinary type found in somatic cells. Thus one of the foundation-stones of the theory proves to be incapable of yielding any support and without its aid we fear the theory must come to the ground. All that we know at present is that the forms of cell division in cancer cells are irregular; why or how we cannot explain. Such theories as that put forward by Dr. Welsh are of value in that they incite us to examine afresh the grounds for the opinions which we hold, to test thoroughly the bases on which our theories rest, and to revise from time to time the views which are generally accepted.

LIVINGSTONE COLLEGE.

SITUATED on the borders of Epping Forest at Leyton is a fine old country mansion now known as Livingstone College, which exists for the purpose of giving instruction in the elements of medicine and surgery to men who are already missionaries or who are preparing to become missionaries to isolated posts abroad. The need for some simple teaching that will enable missionaries to take care of their own health in places where medical aid is far distant was the keynote of several speeches made by missionaries at Livingstone College on June 5th, Commemoration Day, when the buildings were thrown open to public inspection. But it is not only the missionaries themselves who receive benefit from the teaching given at this college but also the natives of the country in which they may be working. Of course, it is only the more simple diseases which can be treated, for the course at the college is concluded in nine months, while those who enter for the course are required to sign a declaration that they will not take the title of "medical missionaries" or otherwise assume the position of a qualified medical man. It must be difficult for those who live in civilised countries and are able to call in medical attendance at a moment's notice to realise the position of those who are sick in a strange land far removed from medical aid, but if a man will travel 50 or 70 miles through forest and jungle to have a tooth drawn, as stated by two of the speakers, it is not difficult to imagine the position of one suffering from more serious complaints. In his report the Principal of the college, Dr. C. F. Harford, pointed out that there were on the committees of the college 12 medical men, six of whom had served abroad in connexion with six different missionary societies, so that they claimed to have some knowledge of the needs of the mission field. He claimed that Livingstone College should be supported on ethical, economical, and educational grounds. Ethical, because missionaries going to dangerous and isolated stations ought to be taught to care for their own health as well as to relieve the sufferings of the ignorant natives by whom they might be surrounded. Economical, because he believed that the college training would increase the usefulness of missionaries and save money spent in medical expenses and invaliding. Educational, because he considered that the scientific training was of immense importance to a missionary and prevented him from working in too narrow a groove, and he claimed that missionaries should be able to impart simple instruction in the laws of health to the people amongst whom they might be placed. He pointed out that a considerable proportion of the students at present at the college came from South Africa and from the continent of Europe, and though they were most heartily welcomed he earnestly appealed to the great denominational missionary societies to make more use of the college. There was a deficiency of over £500 in the college accounts and further help was urgently needed in order that the work might be carried on with true efficiency.

A SCHOLARSHIP IN DENTAL MECHANICS.

THE British Dental Association announces the foundation of the "Smith Turner scholarship in dental mechanics" of the annual value of £30. This scholarship is founded in honour of the memory of the late James Smith Turner and has for its object to help those students who, in the opinion of the fund committee, have financial difficulty in completing the dental curriculum. The scholarship is open to any registered dental student who has not completed the curriculum required for a dental qualification, will be awarded after examination, and will be tenable for one or two years at the discretion of the committee. We particularly approve of the very general

terms of award. The scholarship money will be paid to any approved dental school in Great Britain and Ireland in discharge of fees, and the examination, which will be both practical and *viva voce*, will be held, so far as may be convenient, in rotation in the dental schools of the United Kingdom. The first examination will be held in London at the Royal Dental Hospital, Leicester-square, on April 8th, 1908. Applications must be received on or before March 1st, 1908, addressed to the Honorary Secretary, British Dental Association, 19, Hanover-square, London, W.

THE STREET NEWSVENDOR.

THERE is not much evidence in favour of the view, we are afraid, that personal cleanliness is a particularly jealous precaution taken by the man who sells newspapers in the streets. The calling is not a lucrative one and no doubt these men have a struggle to find sufficient nourishment and clothing for their bodies, in which circumstances it is not surprising that an occasional wash is viewed as a secondary consideration. Their *clientèle* is a very diversified one. The purchaser is now an errand boy, now a clerk, now a professional man, now a person of wealth or may be rank, so that should the newspaper seller's disregard for personal cleanliness amount to an infective process he may be scattering seeds of disease amongst all classes of society. It is somewhat astonishing to find how innocently regarded in general the newspaper is. There is no need to discuss the bacteriology of a newspaper which has come from dirty hands which have wiped soiled faces and which is tainted, it may be, also with the splashings and filth of the streets. The indictment is greatest against the evening papers, for it is chiefly these which are sold in the street. They are taken home to be read by others, they may circulate in the library, dining-room, and drawing-room, or may even be read in bed, notwithstanding the circumstance that the man who sold the paper may be, or is, obviously offensive in regard to his personal habits. This is no figment of the imagination, for we have seen men selling evening newspapers who bore unmistakeable evidence of their disgusting disregard for cleanly conduct. If street newspaper sellers are indispensable, and we do not dispute that they supply a public need, let them be clean in their business and show some attempt to keep and to sell their papers under conditions as cleanly and inoffensive as circumstances will permit. We know instances in which the street newsvendor appears as a perfectly clean respectable person from whom a newspaper may be taken without a shudder, and there should be no reason why such cases should be the exception rather than the rule.

ITALIAN PHYSICIANS ON "ALCOHOL."

"THE correspondence in THE LANCET on the Use of Alcoholic Beverages (writes an Italian contributor) is having its reverberation in the press of Italy, professional and lay. A distinguished consultant of the Piedmontese school is of opinion that neither the uncompromising assailants nor the out-and-out advocates of wine- or spirit-drinking represent the whole truth, which as usual, he thinks, lies between the two. Italians, indeed, scarcely admit, except in few cases, that immoderate consumption of alcohol exists among them. They use it as the better class of the English-speaking world use coffee or tea. Of course, even these beverages may be indulged in to excess; but that does not touch the question, namely, whether such a use of wine as prevails in Italy is not as innocuous, nay, on the whole as beneficial, as the use of tea or coffee prevalent in England. An Italian of the middle class will begin his day (as a rule earlier than in England) with a small cup of coffee and a rusk or bit of dry toast. On the strength of that he will do a good morning's work till about noon, when he will sit down to a *déjeuner à la fourchette*, with hot meat, accompanied with wine, and followed by fresh fruit. That keeps him going through the afternoon till the evening, when he dines, generally on fish and hot meat, and again with wine, followed by fruit, which latter he prefers uncooked, taking with it a little undiluted 'Chianti' or 'Lacrima Christi' on the principle, as he would say, of 'post crudum, nudum.' To accuse him on this regimen of the 'abuse of alcohol' seems to him absurd. He finds it compatible, as generations of his ancestors have found it before him, with the 'vita vitalis' of keen business enterprise or active professional life. He adjusts the quantity of wine which he takes to the benefit that he derives from it, practically admitting that if he exceeds that quantity he will suffer for it, as, according to Dr. King-Chambers in his treatise on 'The Indigestions,' afternoon teas and kettledrums and 'similar sloppy proceedings' used to be responsible for 'half the dyspepsia of the West End.' In his moderate use of Chianti or Lacrima Christi he maintains that he is no more taking 'alcohol' than the Englishman in his use of tea is taking 'theine.' Dr. Guido Fornaseri, in the leading Turinese journal, presses this argument home on the strength of clinical experience, winding up epigrammatically with the verdict of science as condemning 'alcohol' in excess; with 'attenuating circumstances' when it is freely diluted; and with the *benefizio del perdono* (the concession of pardon) when, so diluted, it is taken in moderation."

INFANT MORTALITY AND ITS PREVENTION.

IN an excellent paper read before the sessional meeting of the Royal Sanitary Institute on May 31st Major R. J. Blackham, D.P.H., R.A.M.C., dealt with the problems attending infant mortality both under the conditions of civil and army life. He classed the necessary preventive measures under three heads, those directed towards the mother, those directed towards the child, and those requiring special statutory powers. As regards the mother, he insisted on the extreme importance of educating elder girls in the care of infants and young children to fit them for their future responsibility and quoted a very apposite passage from Herbert Spencer, in which that philosopher maintained that the education of the children of his day was limited to a "curriculum for celibates," a reproach from which we are not yet free. Major Blackham suggested that instruction on these matters should be given under the supervision of medical men and specially trained nurses and that the Royal Sanitary Institute might issue a certificate in infant hygiene to qualify nurses for such appointments. He next pointed out the necessity of the proper care of poor women during and after the puerperium and he showed by a table that the prospect of passing through the first year of life is twice as good for the soldier's infant as for the child of the neighbouring civilian, which was largely attributable to the increased care taken of military mothers; he recommended to civil attention the system adopted by the French Society of Nursing Mothers; the last necessary provision for the mother was "the further supervision of female labour in factories and the prevention of women from engaging in arduous labour during the three months immediately preceding and following parturition." In this respect he recommended the institution of factory crèches as being not only good for the mother and the child but also affording valuable training schools for older girls in infant management. Turning to the measures directly affecting the child he dealt with them under three further heads—the provision of a pure milk for artificial feeding, including the inspection and control of milk from the source to the consumer, the

appointment of lady health visitors, and provision for the earlier registration of births. With regard to the first of these he pointed out the excellent example set by France and with regard to the last the lesson taught by the ex-Mayor of Huddersfield's philanthropic experiment. Major Blackham then grouped the new legislation required into three Bills embodying the following measures:—

1. A short Act on the lines of the Roussel law of France, prohibiting (*a*) the use of undigested farinaceous foods for infants less than seven months old; (*b*) the sale of infants' foods which do not bear an analysis on each packet and a certificate from a Government analyst that they are non-injurious; (*c*) the use of feeding bottles with tubes and dummies or infant soothers.

2. An Act amending and consolidating the Infant Life Protection Act of 1897 and the Prevention of Cruelty to Children Act of 1904. This Act would: (*a*) provide for the further protection of children sent out to nurse; every child adopted for lump sum or received for reward, whether alone or with others, would be inspected by Government inspector till it attained the age of seven years; (*b*) prohibit and penalise the leaving of young children alone in circumstances of danger; (*c*) authorize the distribution by registrars of circulars giving advice on the care of children; (*d*) control and vigorously restrict the life insurance of the infants.

3. An Act replacing the present Dairies, Cowsheds, and Milkshops Order of the Local Government Board.

In concluding this valuable paper the writer pointed out the important fact that "the question of infant mortality seems to be one which draws the practitioners of curative and preventive medicine closer together than any other subject." The tables comparing civilian and army infant mortality were striking in showing the increased chance of life of children reared under service conditions.

MEAT, MILK, AND DISEASE.

WE have before us three documents—namely, the report of the medical officer of health of the City of London, Dr. W. Collingridge, for the five weeks ending May 18th; a special report, dated June 1st, to the health committee of the Portsmouth town council by its medical officer of health, Dr. A. Mearns Fraser; and, lastly, a report of a case heard on June 4th at the Mansion House police-court. All these documents deal with diseased meat or milk which is deliberately offered to the public for sale as food for themselves and their children. Dr. Collingridge draws special attention to the very ineffective way in which the laws for the inspection of food products in the United States of America are carried out and he gives two instances. In the one case a forequarter of chilled American beef bearing the inspection label of the United States Department of Agriculture was sent by a firm in Smithfield Market to a customer at Reading. A local inspector there examined the beef and found that although no tuberculous lesions were evident externally, yet the sternal glands into which he cut were diseased. The meat was destroyed with the consent of the owner. Again, on May 5th a quantity of plucks from a box bearing the inspection label of the United States Department of Agriculture were seized as unfit for food. The label was stamped, "Est. no.1 Cancelled." As doubts existed as to what this meant the matter was submitted to the United States Bureau of Animal Industry, which replied explaining the lettering and adding, "There is nothing to indicate that the contents of the box bearing this label was condemned by the United States inspectors." So much for America: now let us look at home. Dr. Fraser calls the attention of his authority to "the menace to health through the systematic trade in diseased animals, principally tubercular cows, that is carried on in country markets near Portsmouth." Dr. Fraser gives a list of animals sold nearly all in Petersfield and Chichester, with their probable destination, which in most cases was London. The list covers the period May 30th, 1906, to May 29th, 1907, and includes 72 cows. The price of these animals varied from 5*s.* to 80*s.*, and many of these, according to Inspector Monckton, the borough inspector, who attended the markets, where, of course, he had no legal *locus standi*, showed "unmistakeably that they were badly affected with tuberculosis." Dr. Fraser's opinion is that the only way of stamping out this trade is the systematic inspection of live-stock. Turn we now from the simple rustic to the town trader. On June 4th, at the Mansion House police-court, Messrs. Field and Co., Limited, fruit merchants, of 10, Monument-street, were summoned before Alderman Sir W. Vaughan Morgan by the Stepney borough council for selling 1290 tins of condensed milk which were unfit for human food. Thomas Palmer, their manager, was summoned for aiding in the offence. A witness named Wear, who had purchased the 1290 tins, and who admitted that he had been proceeded against and fined £30 10*s.*, including costs, for having the stuff in his possession, said that after this prosecution he saw Palmer who advised him not to trouble, "as the matter would blow over and the loss would be made up on another deal"; also "that if he would plead guilty and keep the company's name out of the case they would pay his fine and would recompense him." Mr. Leycester, counsel for the defence, denied the truth of these conversations but admitted that all the tins were bad. He said that the milk had been sold as pig's food, although Wear stated in evidence that he had bought it for human food. In the end the company was fined £25 and £5 5*s.* costs and Palmer a like sum. The trade in diseased meat and putrid milk, to say nothing of adulterated food-stuffs, will never be put an end to until the vendors are treated as the poisoners which they really are.

EPIDEMIC CEREBRO-SPINAL FEVER.

IN a summary of several investigations, chiefly statistical, which he has made on the subject of epidemic cerebro-spinal fever, Dr. A. K. Chalmers, the medical officer of health of Glasgow, states that there is no reason to suppose that food conveys the infection. In fatal cases patches of congestion were found in the intestine, sometimes in the duodenum, but more commonly towards the lower end of the ileum. Temporary diarrhœa sometimes preceded an attack, but efforts to discover the meningococcus in the intestinal discharges or in the bowel wall have not hitherto been successful. Some of the cases suggested that the period of incubation might be less than a day, but, on the other hand, some secondary cases occurred in the second week, and others in the second month after known exposure. Although nasal discharges were from time to time examined the organism was recovered only three times from patients by swabs taken through the anterior nares. It was recovered, however, from the naso-pharynx of four "contacts." Dr. Chalmers remarks that "carrier" cases and spray infection would completely explain the method of spread were the organism recoverable in a larger proportion of "contacts." Among the patients observed in Glasgow mixed infections were rare. In two such cases the meningococcus was associated with the tubercle bacillus in one and with a diplococcus in the other. In 106 examinations, "71 of which were by lumbar puncture after death and 35 were necropsies," the meningococcus was found alone in 71 cases, the pneumococcus alone in two cases, the meningococcus and the pneumococcus together in one case, the tubercle bacillus in four cases, and a streptococcus in one case, whilst in 27 the results were entirely negative. With regard to school association, it has to be remarked that the onset of the disease is very sudden and usually prevents school attendance from the beginning. In 38 schools single cases only occurred, in 17 schools there were two cases each, in six schools there were three cases each, and in four schools there were four cases each. In Scotland during the week ended June 8th there were 15 deaths from this cause registered in Glasgow, five in Edinburgh, three in Leith, and

one in Paisley. In Glasgow the weekly report issued on June 7th showed that there were at that time 104 cases under treatment. In Belfast during the week ended June 8th ten deaths from this cause were registered.

THE CHILD'S HOLIDAY.

THE health of the little ones who live in the poorer and generally unhealthier areas of our great cities is a matter of the first importance to us all. Not only humanity but self-interest, our interest in our population, insures this. To give these children when living in London a fortnight's holiday in the country does not at once fit them to become either useful workers and desirable members of the community or healthy parents of a new generation, but it affords an admirable stimulus to all manifestations of their physical and moral progress, and therefore the Children's Country Holiday Fund deserves the best support which we can give. Entirely unsectarian in its character, the society year by year extends its good work and is only limited in its operations by the amount of the subscriptions which it receives from the public. From the annual report which has just been issued we learn that during the year 1906 43,442 children were sent to country cottages in the south of England, and the executive of the society expect that during the forthcoming season there will be an even greater demand upon the fund for assistance. When it is remembered that there are more than 800,000 children on the rolls of the London (including West Ham) schools 43,000 appears as but a small proportion to whom to extend the advantages of a visit to the country, particularly when we remember that quite possibly one-half of the elementary school population of London never leave the metropolis for a single night throughout the year unless they happen to be among those selected for a country holiday. The report of the fund, which can be obtained from the secretary, should be read by all who take an interest in what someone has described as "God's problem awaiting man's solution—the little child." Contributions should be sent to the secretary or the treasurer at the central offices of the fund, 18, Buckingham-street, Strand, London, W.C.

RAYNAUD'S DISEASE.

IN the *Western Canada Medical Journal* for April of this year Dr. G. A. Gibson of Edinburgh publishes some interesting observations on Raynaud's disease. He deals only with those cases in which the origin of the symptoms is obviously reflex in character and describes two instances in which the ordinary clinical symptoms of the malady were well marked. They were both men, one being 18 and the other 23 years of age. Ordinary treatment proved of no avail, and as Dr. Gibson considered that the condition might be produced by renal mobility, in each case the operation for fixation of the kidney was performed. In the first case the effect of the operation was remarkable. The patient was kept on his back for a month after its performance, and when he was allowed to get up it was found that all the symptoms of Raynaud's disease had disappeared. Although the weather was still cold, the discolouration of the affected parts of the body had disappeared, and the contraction of the veins never recurred. The result in the second case was equally satisfactory. Dr. Gibson records these cases as excellent illustrations of a variety of Raynaud's disease having its origin in reflex disturbances and falling into the same category as the angina pectoris vaso-motoria of Landois and Nothnagel. It might, of course, be suggested that mobility of the kidney is in itself scarcely sufficient to produce such widespread disturbances as are found in connexion with Raynaud's disease. Dr. Gibson points out, however, that moveable kidney is a fertile source of palpitation and of tachycardia and he believes that there can be no doubt of its power to bring about all the vaso-motor changes which are summed up under the title of Raynaud's disease.

"GREATEST OF THESE."

WE have received a letter from Mr. Sigismund Goetze giving his reasons for thinking that our recent allusion to his picture, which bears the above title and which is now on exhibition at Burlington House, was unfair. Mr. Sigismund Goetze's letter was marked "Private" or we should have been happy to publish it. The words to which exception is taken were as follows: "The central figure is a lady suckling a child of four, which is somewhat of a physiological exploit"; and the question is how old the infant which he has painted appears to be. We have scrutinised the picture closely since Mr. Goetze's letter of protest and we have come to the conclusion that the truth lies somewhere between Mr. Goetze's intention and our critic's estimate. The infant does not look four years old and we regret that needless exaggeration should have been employed in such a way as to give pain to the artist. But we find the infant too big, too muscular, and too old-looking as displayed in Mr. Goetze's picture for the occupation in which he is depicted.

ST. PANCRAS MOTHERS' AND INFANTS' SOCIETY.

AS a result of the efforts of Dr. J. F. J. Sykes, the medical officer of health of the borough of St. Pancras, a good deal has been done in that neighbourhood to encourage the natural feeding of their infants by poor mothers and to discourage as far as possible artificial feeding. In this endeavour he has been assisted by a band of lady health visitors and it would appear by the infant mortality rate in St. Pancras last year that some measure of success has been attained. A further step in the same direction is now contemplated by the establishment of the above society. It has for its object the provision of a school for nursing mothers to which they will be invited to go to learn how a baby should be clothed, fed, washed, and tended. It is proposed to have a trained teacher on duty at certain times to give practical instruction on the babies themselves. The mothers are to be taught how to feed their babies and how to cut out and make baby clothes, and if it is found that they take kindly to such teaching it is hoped that cooking, nursing, hygiene, and needlework classes may also be organised. A special feature is an attempt to attract newly married girls to go to the Mothers' and Babies' Welcome, as the institution is appropriately to be named. A further suggestion is that in order to assist the poor mothers properly to nurse their babies cheap dinners, which will be utilised as object lessons in the economical preparation of nourishing food, shall be provided at a small cost. A department is also to be formed in which non-nursing mothers, on the production of a certificate from a medical practitioner, a dispensary, or a hospital, will be taught how to procure pure milk and the best methods of hand-feeding. It is also intended to establish a provident club for parents to encourage the forming of some provision during the time when the mother is laid up, a consulting-room where mothers and babies may be examined and advised, and a bureau for fathers where their circumstances may be investigated and advice given, we presume as to the obtaining of work. As it is obvious that a scheme of this kind cannot be initiated without a good deal of expense an appeal is being made to the inhabitants of the neighbourhood to subscribe towards the expenses of the Mothers' and Babies' Welcome. The scheme is one of considerable interest and should prove, if properly and efficiently carried out, a great boon to the poor mothers of St. Pancras. It is founded partly on the scheme which has been started in Chelsea for providing

dinners for nursing mothers and partly on the school for mothers which is in existence at Ghent. We trust sincerely that the Welcome may meet with the support which it deserves.

MEDICAL EDUCATION IN LONDON: THE "CONCENTRATION" QUESTION.

IT is evident that the present position of the movement for the concentration of earlier medical studies under the University of London is receiving much consideration. A letter from Mr. Cosmo Bonsor, the treasurer of Guy's Hospital, containing a resolution on this subject recently passed by the teachers in the medical school of that hospital is published in our columns to-day. In forwarding this resolution to the Principal of the University Mr. Bonsor states that it must not be construed as adverse to the principle of concentration but only to the particular proposals at present sanctioned by the University. As these particular proposals are the outcome of the most careful consideration of the question extending over many years and have been before the public a considerable time, this negative attitude towards them is not very helpful. A meeting of the Faculty of Medicine of the University of London has been called to consider the present position of this question for Friday, June 28th. Perhaps some useful suggestions as to possible modifications of the present scheme may result from the deliberations of the Faculty. It seems clear that some compromise between the conflicting interests of teachers of different parts of the curriculum and of competing institutions must be arranged before any useful report to the Senate can be agreed upon. If this is impossible it would appear necessary for the Senate to set up a sort of informal commission to take evidence upon the subject and to prepare a report for the guidance of the Senate upon this urgent and difficult question.

THE PROBABLE ORIGIN OF SYPHILIS IN EUROPE.[1]

IN this little pamphlet Dr. L. Bousfield has gathered together passages from authors both ancient and modern which show arguments both for and against the existence of syphilis in Europe prior to 1494. The question as to whether this disease did or did not exist in Europe prior to 1494 may be set down in the same category with the two problems mentioned by Sir Thomas Browne as unsolved though not insoluble. Dr. Bousfield asks that allowance may be made for him in having omitted certain evidence. He quotes from various ancient medical authors such as Aretæus and Galen passages which certainly might be descriptive of syphilis and we should say probably are so. He has, however, omitted one from a layman, namely Persius, which is quite worth quoting. It occurs in his Third Satire:

> "Tentemus fauces, tenero latet ulcus in ore
> Putre ....."

The satire, it must be remembered, deals with the fast young men of Rome. Dr. Bousfield gives the well-known passage in Martial, Epigramm. VII., 71, commencing "Ficosa est uxor." The epigram is all about figs, and, as Dr. Bousfield says, there is a play on the words and the exact meaning is very doubtful. What exactly Martial had in his mind it is impossible to say, but we think there is little doubt that there is an allusion to matters such as second-hand book-sellers call "curious." Whatever "ficus" meant in Latin it is certain that the Greek word for a fig—i.e., *σῦκον*—also meant the *pudenda muliebria*. Moreover, "fig," "fico," and "figue" are all found in the respective languages as expressive of the same organs. Therefore the epigram may very well refer to a venereal sore. Dr. Bousfield gives full value to the views of those who think that the disease called leprosy by mediæval writers was in many cases syphilis. His final conclusions are that syphilis "was either a new disease (in Europe) or a disease which appeared new to the living generation" in or about 1494. The pamphlet is interesting as an introduction to the study of a subject of vast interest and one in which there is still room for arduous research.

[1] The Probable Origin of Syphilis in Europe, by L. Bousfield, M.A., M.D. Cantab. London: S. F. Rodsell. Price 2s. Pp. 22.

THE EARLY NOTIFICATION OF BIRTHS.

THE Notification of Births Bill came before the Grand Committee of the House of Commons during last week and the Bill was then altered in many details. A most important modification was that making it an adoptive Act instead of a compulsory one, that is to say, it is only to apply in the area of any local authority which chooses to adopt it. As the Bill at present stands it provides for the notification of a birth by the father and by any person in attendance on at the time of, or within six hours after, the birth, in writing to the medical officer of health of the district. This must be done within 36 hours of the birth and applies to still-born children as well as to children born alive. Unfortunately, no definition of a still-born child is given in the Bill and no doubt this will lead to confusion and evasion of its provisions. Probably if the Bill passes it will undergo still further modification after consideration by the whole House. The Bill was down for this purpose on Monday, June 10th. It was not, however, reached and the matter was deferred until Thursday, the 13th. It is difficult to understand whether the notice of births is to be the duty of the nurse or of the medical man, since both may be said to be in attendance at the time of birth. But probably it is intended to be done by the medical man. This will throw a considerable amount of extra work on the shoulders of the already hard-worked practitioner, but the more certain and earlier notification of births thus obtained will tend very markedly, at any rate in those districts in which full advantage is taken of the knowledge by the local medical authorities, to the saving of infant life. That such a duty should be laid upon the medical man without any payment being made for it is we think unfair, but any attempts to insist upon the payment of a fee for such certificates is likely to wreck any chance that the Bill may have of passing. It is a matter for regret that no definition of a stillbirth has been inserted in the Bill, as, after all, it is chiefly the compulsory notification of such births which is of the greatest importance. As far as it goes this short Bill might prove of great service, but it is, we think, unfortunate that it has not been made compulsory on all local authorities to adopt it.

AN extra afternoon meeting of the Royal Medical and Chirurgical Society will be held at 20, Hanover-square, London, W., on Wednesday, June 19th, at 5.30 P.M., to listen to a paper by Mr. D'Arcy Power, F.R.C.S., F.S.A., the reception of which by the society constitutes an interesting departure in the practice of that body. Mr. Power's paper is upon Dr. Walter Bayley and his Works, 1529–1592, and as he has ere now proved himself to be a true antiquary, every suggestion that may throw light upon the life or work of Bayley will be received with interest. We hear that in the course of his researches he has discovered Bayley's will, of which extremely interesting document he will give a transcript. To add to the usefulness of the meeting Fellows and others are contributing various objects of antiquarian interest, which will be displayed. Mr. Power, for example, will exhibit a letter of Archbishop Strafford, Abbot of Westminster, dated April 19th, 1445, addressed to all barber surgeons in the City

of London, directing them to cease from opening their shops on Sunday on pain of excommunication.

THE secretaries of the National Committee of the Fourteenth International Congress of Hygiene and Demography request those who propose to attend the Congress to send in their names to them, stating the titles of their papers, if any, and whether they will attend the Congress as delegates or ordinary members. For information regarding the Congress, which will be held in Berlin from Sept. 23rd to 29th next, application should be made to Professor G. H. F. Nuttall, F.R.S. (honorary secretary), 3, Cranmer-road, Cambridge.

ON June 11th the Queen, with the Queen of Denmark and Princess Victoria, paid a private visit to the exhibition of Red Cross appliances, which closes to-day (Saturday), at Earl's Court. We hope to publish an account of the exhibits in a forthcoming issue of THE LANCET.

TELEGRAMS from the Acting Governor of Hong-Kong, received at the Colonial Office, state that for the week ending June 1st there were 10 cases of plague and nine deaths from the disease, and for the week ending June 8th 15 cases and 12 deaths.

Dr. W. J. R. Simpson will deliver the Croonian Lectures of the Royal College of Physicians of London on Tuesdays and Thursdays, June 18th, 20th, 25th, and 27th, at 5 P.M., at the College, the subject selected being "Plague."

AS we go to press we learn that the amount at present received by the Metropolitan Hospital Sunday Fund is £15,000. As usual, we shall give lists of the amounts of the principal collections and donations in future issues.

THE name of Mr. Henry Morris should have been included among those appointed to serve on the Dental Committee of the General Medical Council.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

THE present constitution of the Council is as follows. There are 24 members and three retire each year, but if the time of retirement of a member of the Council should arrive when he is President he does not retire but he becomes entitled to remain a member of the Council for another year. In the natural course of events Sir John Tweedy would have retired in 1904, but he was twice re-elected President, so that his term does not come to an end till this year. The list given below shows the dates of retirement of the present members. The date of the first election is given in every case in which the member has been elected to the Council more than once.

Retire in 1914: Mr. G. A. Wright, Manchester Royal Infirmary; Mr. Henry Morris, Middlesex Hospital (first elected, 1893); and Mr. F. Richardson Cross, Bristol Royal Infirmary (first elected, 1898).

Retire in 1913: Mr. Edmund Owen, St. Mary's Hospital; Mr. Rickman J. Godlee, University College Hospital; and Mr. C. H. Golding-Bird, Guy's Hospital.

Retire in 1912: Mr. H. Gilbert Barling, Birmingham General Hospital; and Mr. Anthony A. Bowlby, St. Bartholomew's Hospital.

Retire in 1911: Mr. H. T. Butlin, St. Bartholomew's Hospital (first elected, 1895); Mr. G. H. Makins, St. Thomas's Hospital; and Mr. C. T. Dent, St. George's Hospital.

Retire in 1910: Professor Howard Marsh, St. Bartholomew's Hospital and Cambridge (first elected 1892); Mr. J. H. Morgan, Charing Cross Hospital; and Mr. H. H. Clutton, St. Thomas's Hospital.

Retire in 1909: Mr. A. W. Mayo Robson, Leeds Infirmary (first elected, 1893); Mr. W. Watson Cheyne, King's College Hospital; and Mr. R. Clement Lucas, Guy's Hospital.

Retire in 1908: Mr. J. Ward Cousins, Royal Portsmouth Hospital (first elected, 1895); Mr. A. Pearce Gould, Middlesex Hospital; and Mr. W. Harrison Cripps, St. Bartholomew's Hospital.

Retire in 1907: Sir John Tweedy, University College Hospital (first elected, 1892); Mr. H. W. Page, St. Mary's Hospital; Mr. C. W. Mansell Moullin, London Hospital; and Mr. Frederic S. Eve, London Hospital.

It will be seen that of the 24 present members of the Council 19 are representatives of London hospitals and five are connected with provincial hospitals. Of the 19 London members four come from St. Bartholomew's; two members each come from Guy's, the London, Middlesex, St. Mary's, St. Thomas's, and University College Hospitals; and one member each is provided by Charing Cross, King's College, and St. George's Hospitals.

There are this year four vacancies and for these there are seven candidates. Sir John Tweedy has decided not to reapply, but the three other retiring members—namely, Mr. Page, Mr. Mansell Moullin, and Mr. Eve—will offer themselves again for election. There are four new candidates—Mr. Charles Higgens of Guy's Hospital, Mr. W. Bruce Clarke of St. Bartholomew's Hospital, Mr. Charters J. Symonds of Guy's Hospital, and Mr. W. D. Spanton of Hanley. Of these Mr. Bruce Clarke and Mr. Symonds have been candidates previously. The day of election is Thursday, July 4th.

MEDICINE AND THE LAW.

The Control of Medical Certificates.

FROM time to time difficulties arise between the parents of children of school age and the local education authority as the result of the production by the former of a medical certificate which states that the child is either fit or unfit to attend school. It is a professional axiom that a medical practitioner expects his *bonâ fide* certificate of health to be accepted without question, but occasionally the validity of such documents is contested. Two recent cases may be given in illustration. At a petty session for hearing school-attendance summonses at St. George-in-the-East a mother endeavoured to excuse her daughter's absence from school by producing a medical certificate which stated that the child was in such a condition as to be unfit to attend school, her complaint being pediculosis capitis. The justices declined to accept this certificate as a sufficient excuse, it being a matter of common knowledge that the repeated neglect of a parent is solely responsible for this verminous state; indeed, they fined the mother somewhat more heavily than in ordinary cases of summons for non-attendance at school. A few months back the public health (education) department of the London County Council issued a notice to the effect that it was considering whether a child who had been excluded from a public elementary school on account of diphtheria or other sore-throat should be readmitted to the school unless previously a medical certificate had been delivered which stated that the throat of the child was bacteriologically free from the diphtheria bacillus; the necessary clinical research would be executed free of cost to the parent; a medical certificate based on other signs would not be accepted. This innovation was the result of the expression of opinion made by the Incorporated Society of Medical Officers of Health. The proposal has been objected to as an apparent dictation to medical practitioners as to their methods of arriving at a diagnosis; the London County Council was requested to reconsider the novel legal position which would be established. It has now been advised that the code of regulations for elementary education provides that no child shall be refused admission to a public elementary school on other than reasonable grounds to be determined in case of dispute by the Board of Education and, therefore, as there is little doubt that the Board of Education would decide that it is reasonable to require such bacteriological examination provided the parents were enabled to obtain such examination without expense, the London County Council is acting within its power in demanding that form of medical certificate.

Hearsay Medical Evidence.

The statements made by an injured person to his medical

adviser are sometimes included in the exception to the rule of the law of evidence which prohibits "hearsay testimony" from being adduced in court. Such statements recently formed the subject of dispute in the case of Gregory *v.* the State, tried in the Appellate Division of the Supreme Court of Alabama. The proceedings arose upon a charge of homicide. The alleged statement of the deceased patient that he had "no feeling in the feet or legs and had burning in the stomach" was testified to by a medical witness; the admission of such hearsay testimony was challenged. The decision was that, had the words quoted referred to the cause or way in which the accident resulting in the injury had occurred, they would have been excluded, for otherwise that would have been admitting a narrative of past events which should have been proved in the usual way. Here, however, what was desired to be put in evidence was the character, locality, and symptoms of pain which aided in explaining the bodily condition of the injured man and so assisted the medical adviser in forming an opinion of the nature and extent of the injury. In narrating what the patient said he felt and suffered the physician was stating some of the facts which enabled him to arrive at a correct diagnosis of the injury and to prosecute a line of treatment; as his diagnosis and his treatment may be questioned in court the clinical facts which led up to his conclusions should also be allowed. It is obvious that this form of hearsay testimony can only be allowed where the patient is already deceased, otherwise he should be produced as a witness in court. In attending what appears to be a case of attempted homicide it is well to note down all comments made by the victim; they may be useful later.

The Case of Mr. Burnyeat.

Mr. W. D. Burnyeat, M.P., has no doubt learnt a lesson during the past fortnight which he will not forget, and it is to be hoped that his experiences will have a more extended usefulness by enabling some of those foolish persons who dose themselves with drugs the qualities of which they do not understand to appreciate the kind of consequence which may follow such conduct. It is not necessary to recount in detail that which the daily newspapers have already related in their reports of the hearing of the charge against the member for Whitehaven at the police-court. Having arrived early in the morning at a hotel in London after a night journey and being seized with griping pains after breakfast he took "chlorodyne," pouring it on his tongue undiluted. His own evidence was that he was not in the habit of using "chlorodyne" but that he had done so on six or eight occasions during his life and that he usually carried some with him when travelling. At all events, he had in his bedroom on the morning in question a bottle of chlorodyne of which four-fifths of the contents had been consumed as well as an unopened bottle and he repeated at intervals during the day the process of swallowing chlorodyne "neat" until at some time after 6.15 P.M. he had emptied both bottles. Meanwhile he had taken no food, as he was still feeling very unwell, but had done some work at his own chambers in the Temple, and had attended a consultation at the chambers of a King's Counsel in Lincoln's-inn a little after 4 P.M. Walking westwards along the Strand after finishing the chlorodyne, as mentioned above, he felt faint and went into the Gaiety Restaurant and had two small "whiskies and sodas." After this, according to his own evidence, he remembered entering an omnibus with a view to reaching Charing Cross and recollected nothing further until he found himself in a cell at Kennington-road police station, whither he had been taken on an ambulance by a constable who had found him apparently drunk and incapable outside Waterloo Station. As to the formalities which preceded his release from the police station he had no recollection when late on the following day he saw his name placarded on the bills of the evening newspapers as having failed to surrender at the police-court. The charge of drunkenness against him has now been heard and dismissed, there being abundant witnesses of unimpeachable integrity as to his temperate habits and good character generally, and as to his sobriety on the day in question, followed by the evidence of Dr. A. P. Luff, Mr. A. J. Pepper, and Dr. J. S. Bury of Manchester, to the effect that the amount of chlorodyne which he had imbibed during the day and which had accumulated in an empty stomach until finally diluted and absorbed through the action of the whisky and soda-water would be calculated to produce exactly the symptoms which the police had observed and which Mr. Burnyeat, so far as he was able, described. Accordingly, Mr. Burnyeat was acquitted of the charge brought against him by the police, as he was clearly entitled to be, but surely he must remain convicted before the tribunal of his own conscience of being a very unwise person, in spite of his legal attainments and of the mental qualities which have won for him at an early age a seat in the House of Commons. That an educated man should dose himself with "patent" nostrums instead of having recourse to a medical practitioner when feeling as ill as he no doubt did would hardly be credible if examples of such imprudence did not occur frequently; it is less easy to understand how a man whose intelligence and education may be assumed to have been above the average should persist in taking for a whole day a compound the general characteristics of which are so well known as those of "chlorodyne." His own sensations must at least have shown him that he was doing himself no good, and he must presumably have drawn the less reasonable conclusion at the same time that he could consume a bottle full of it without its having any effect of any kind. We have congratulated him upon having vindicated his character for temperance; we must also express the hope that he realises his good fortune in having survived to do so. Apart from the amount of the drug which he consumed he must have escaped considerable danger during the interval between his visit to the restaurant and the time when the police took charge of him.

NOTES UPON HEALTH RESORTS.

(FROM A SPECIAL CORRESPONDENT.)

THE AUSTRIAN SPAS.

IN various parts of the Austrian Empire there are places known as "kurorte," a word which may be translated health resorts or spas, but which conveys the additional meaning that the places in question are officially recognised as such, and the Government permits the use of this appellation only when the local conditions deserve it on account of the salubrity of the air or the therapeutic value of the mineral springs. The title "kurort" means also that the visitor has to pay a certain sum (*kurtaxe*) for the privilege of using the thermal springs as a contribution to the cost of keeping the place up to date. The sum to be paid varies according to the place and the length of the stay that is made. As a rule, the first eight days are free from this tax and the total hardly ever exceeds £2. The accommodation is mostly on the continental system. The English custom of boarding-houses is only exceptional and is prevalent in such places as are more frequented by English and American visitors in the Tyrol, whilst the majority of places has for the visitors the system of furnished rooms and flats or hotel accommodation. With the exception of one or two of the most fashionable kurorte, like Carlsbad or Marienbad, the cost of living is considerably cheaper than in the equivalent English spas or seaside places, whilst the scenery and the variety of the peasant population, the old-fashioned costumes, and quaint customs and habits of the rural inhabitants which are to be met with everywhere, in spite of the tendency to uniformity produced by modern education, form a pleasant change for those who are not used to it. There are four distinct groups of kurorte in Austria, with four different groups of indications. One group, mostly situated in the northern parts of Bohemia and Silesia on the slopes and within the northern valleys of the Bohemian mountains, comprises the spas with warm medicinal springs, the principal names being Carlsbad, Marienbad, Franzensbad, and Teplitz-Schönau. Another group, where the clear, pure mountain air is the chief factor or where the warm, mild climate is sought on account of the position in a warm valley, comprises the well-known places in the Tyrol—Meran, Bozen, Gries, Arco, and Riva; these places give excellent results in cases of diseases of the upper and lower air passages. The next group is formed by those kurorte which possess special mineral waters containing sulphur, iodine, iron, or alkalies, such as Baden, Darkau, and Hall, whilst a number of health resorts situated on the sea coast, or within the Alpine region, are famous simply for the tranquillising effect of their bracing, healthy climate. Of all these places the Bohemian mineral springs are the best known. It is unnecessary to speak of

Carlsbad and Marienbad in this article. They are well known to all English readers; but the other place, Franzensbad, deserves to be remembered by all medical men. The place itself is situated on the slopes of the Erzgebirge, protected against the northern winds and surrounded by extensive forests, and is arranged like a garden city. The springs are 12 in number; the waters are pure, of a somewhat acid taste, and with a trace of common salt and iron in them. The springs also contain a large amount of carbonic acid gas, which has lately become very important in rendering the waters a remedy for cardiac troubles if applied in the form of carbonic acid baths. The chief constituents of the waters are: sulphates of sodium and potassium, common salt, carbonates of magnesium, lithium, calcium, and sodium, and carbonate of iron, of which last constituent there are about 5 parts in 10,000 parts of the water. The Franzensbad waters are therefore among the strongest natural ferruginous waters. The quantity of free carbonic acid gas varies between 830 and 1600 cubic centimetres per litre of the water and the temperature is about 10° C. The carbonic acid contained in the water constitutes the chief factor of the modern development of this spa. Since the salutary qualities of carbonic acid baths have been made use of in the Nauheim treatment it has been claimed that Franzensbad, by the combination of its walks and promenades situated on a gentle slope, together with its effervescent baths, is at least equal to Nauheim, if it does not surpass it. A number of physicians have also settled here and the therapeutic results obtained are very good. The older indications of treatment at Franzensbad were anæmia and other disordered states of the blood, diseases of females, and chronic arthritic changes, which are treated here with the famous "Moor," or mineral mud, which forms an immense natural deposit amounting to about 8,000,000 cubic metres. Moor consists of a mixture of decomposed organic matter from swamps and ditches, with an admixture of alkaline substances, sulphuric, formic, and acetic acids, the result of decomposition in the absence of atmospheric oxygen. As prepared for therapeutic use it has the appearance of a thick, unctuous, brown mud. The number of visitors is upwards of 11,000 and the season lasts from the middle of April to the middle of October.

The second kurort belonging to the same geological formation is Teplitz-Schönau in Austria (Bohemia). The town has about 30,000 inhabitants and is one of the richest communities in the richest crownland of the Austrian Empire. The warm springs have been celebrated for 1100 years and belong to the class of alkaline-saline waters. Their temperature varies from 28° to 46° C. and their track has been discovered along the primary formation of the mountain range called Erzgebirge (metalliferous mountains). These ranges consist chiefly of porphyry, granite, and gneiss, and together with the basalt formation of the Mittel-Gebirge, they form beautiful landscapes with far-reaching plateaus and peaks, the stony soil of which is unsuitable for tree growth, so that extensive woods exist in only a few places. A notable fact in the history of the springs is that the flow of water ceased on two occasions. The first was in 1755, when the fearful earthquake of Lisbon occurred; the water suddenly ceased to flow but returned after a short time with more than its former force. After this the flow continued till in 1879 some coalmines in the vicinity of the spa were flooded by hot water and the springs again failed. Fortunately, however, for the watering-place, another and a larger supply was found at a somewhat greater depth than before. The chief constituents of the springs are sulphates of potassium and sodium, carbonates of iron, magnesium, lithium potassium, and strontium, alumina, and silicic acid. The diseases in which the waters of Teplitz-Schönau are indicated are rheumatism, gout, metallic poisoning, neuralgia, and catarrhal conditions of the uropoietic system. The curative effects of the waters are augmented by applications of mineral mud (Moor). The number of visitors who went there for medical treatment last year was 36,000.

A different series of indications characterises the so-called luft-kurorte (climatic health resorts) of the Tyrol and the Alps. These places are admirably suited for patients who either require a uniform mild climate without any violent changes of the temperature or air currents, or who are simply convalescents seeking quietness. They are situated chiefly in the middle of the large valleys in the Alps. One of them is Ischl in the Salzkammergut near Salzburg. The town is situated in the centre of the picturesque district, which comprises upon a comparatively small area a beautiful specimen of Alpine scenery, including half a dozen lakes and seas, as well as mountains covered with perpetual snow up to 5000 feet high. The kurort is sheltered from the north and west winds by the lofty wooded peaks of the Traungebirge, and the climate is very mild and moist. The number of days with rain or snow is about 178 per annum, and the mean temperature is 8° C. The therapeutic agents are, besides the air, the saline-alkaline waters and the so-called quell-soole, or salt brine. The springs are cold, pure, and contain chloride of sodium and carbonate of calcium, whilst the "soole" is a concentrated (25 per cent.) solution of the salt found in the mountains. These latter contain in many places salt mines which are made use of by flooding them with water. This water dissolves out all the salt, then it is conducted by means of a great aqueduct into the baths, whilst another line of pipes brings the solution into the "Sudhaus" where it is evaporated so that the salt is obtained in a crystalline mass. The diseases suitable for treatment at Ischl are chlorosis, anæmia, general debility, chronic catarrhs of the upper air passages, and scrofulosis. Especially for the last diathesis the stay in Ischl with the use of the brine bath is much recommended. Very beautiful excursions into the Alpine surroundings and the bracing air of the lakes bring every year many thousands of visitors here.

A similar position as regards the advantages of the air and the water is attributed to a small place called Vöslau, about 20 miles to the south of Vienna. The place itself is a quiet modern garden village which boasts of the purest akratothermal spring (28° C.) in Europe. A very large swimming establishment is supplied by this spring; its water is so clear that even at the depth of four metres each pebble is visible. Good results have been obtained from the external use of it in cases of anæmia and in rachitic children, whilst the "grape cure," consisting in the consumption of increasing quantities (from one to six pounds daily) of the fine Vöslau grapes is a speciality of the place in September. Lovely scenery of a subalpine character may be enjoyed from any house in the village.

Semmering is a name which has come into prominence only lately, but which indicates first-class air of a bracing character free from every trace of dust. It is situated at an altitude of 1000 metres (3000 feet), opposite the peaks of the Schneeberg and Rax which are 5000 feet high. This is reached in two hours by train from Vienna and has quickly obtained a well-founded reputation as a resort for convalescents. But the place is quickly losing its rural character on account of the accommodation (excellent in its way) provided there by an enterprising company.

As regards places in the Tyrol, they are already well known in English circles, at least Meran and Bozen. Of these two the first is a health restorer *par excellence* for diseases of the air passages, especially for the early stages of pulmonary tuberculosis. It occupies a commanding position in the valley of the Texel and Iffinger, is about the centre of the Tyrol, and faces the south, whilst it is sheltered in all other directions by the before-named mountains, which are from 6000 to 7000 feet high. The peculiarities of its climate are its elevated position (1500 feet above sea-level), great purity of the air and absence of clouds. During the winter months (November to March) there were 55 absolutely cloudless days, so that only Cairo beats it in this respect (63 days), and in Meran rain fell on only 45 days and snow on only seven days during the year, whilst all other climatic resorts (except Cairo) show a larger number of days with rainfall. The air is very tranquil, there being only 14 days of high wind in winter, and its relative humidity is 68 per cent., like Davos, Cairo, and the Riviera. Patients may therefore spend the greater part of the day out of doors. The temperature hardly ever goes below 0° C. in the winter at noon. Moreover, there are provided all apparatus for inhalation, vapourisation, and electric and gymnastic treatment. The indications are clear: incipient pulmonary tuberculosis, weakly children, chronic exudations, inflammations of the glands, and nervous debility. Prices are not high, so that a person may live here on £10 10*s.* a month pretty comfortably. The situation of Meran in the centre of the Tyrol marks it as a starting-point for tourists and the beauties of the Alps are easily enjoyed. The number of English visitors was upwards of 700 last year, whilst 17,000 persons were counted during the season which lasts from September to June.

Similar conditions prevail in Bozen and Gries, two places which are not far away, and where the climatic conditions

are nearly the same. The only difference is perhaps to be seen in the fact that the last-named two places are more frequented by patients, whilst Meran has other visitors as well. In all the Tyrol towns there are picturesque houses and old-fashioned habits and the hospitality of the population is too well known to require special mention. Also in the south of the Tyrol—namely, on the Italian frontier—there are a number of health resorts which are not very much known outside the empire, but which deserve to be mentioned in this article. Arco, Riva, and Rovereto are the three most important of them. The climate is that of the north of Italy—very warm and dry—and the presence of the large Lake Garda brings the influence of this great expanse of water to bear upon the air, so that a stay in one of these places, or in Torbole, Mori, and Salo, is very often recommended to convalescents. The latter names are known to all tourists in the Tyrol and North Italy, for the scenery can scarcely be surpassed in grandeur and beauty. The prices are low, the water is good, and the sanitation is now improved. At the height of the season accommodation is somewhat scarce. As regards the language, German is sufficient even in the Italian parts of the Tyrol, whilst English is at least understood in all the places, because numerous visitors go to the Alpine countries from England and America, and they are welcome guests. The money is Austrian currency throughout, and meals are mostly arranged on the continental system of breakfast, dinner at noon, tea, and supper after 7 P.M.

Among the kurorte with special waters mention may be made of the sulphur springs of Baden, the arsenical waters of Levico, and the springs of Hall and Darkau containing salts of iodine and bromine. The first-named of these places, Baden, lies 20 miles to the south of Vienna, and is in summer, during the season, the favourite health resort of the well-to-do-classes of the capital. The mineral springs, 13 in number, are very old, inasmuch as the ancient Romans are said to have derived benefit from them. The principal saline constituents of the springs are the sulphates of iron, aluminium, and calcium, and by the interaction of the atmospheric oxygen and the sulphuretted water pure sulphur is set free in a state of suspension in the water, giving it a beautiful bluish appearance. The temperature of the springs varies from 28° to 40° C., and a large swimming-bath, with the sulphur water of 26° C., is a feature of the place. Rheumatic affections and the gouty and arthritic diathesis are much benefited by the external application of the waters in combination with the sulphur mud; in recent years the sulphuretted water has been discovered to be radio-active. Diseases of the skin attended with desquamation (eczema, psoriasis, and seborrhœa) are successfully treated here. The lovely neighbourhood of Baden, at the opening of the Helenenthal, and the excellent accommodation combine to make the place one of the most frequented kurorte in Austria. The number of visitors paying kurtaxe was 30,000 last year. The only drawback for some people is the peculiar smell of sulphuretted hydrogen exhaled by the waters at their source.

The arsenical waters of Levico are now employed by many physicians in Germany, France, and Italy. The place itself lies in the south of the Tyrol, has 2000 inhabitants, and possesses three springs yielding medicinal waters. These contain arsenic, iron, and copper, mostly as carbonates and hydroxides. The water is only used for drinking and is exported in bottles to all parts of the world. Anæmia, chlorosis, diseases of females, arterio-sclerosis, and cachexia are the principal indications for a visit to Levico. The place is quite modern; although small, the number of visitors was 3000 in 1905, and the season lasts practically all the year round, as the climate is actually that of a warm southern place.

Next in order come the iodine waters. There are two places famous for their springs. The one is Darkau in Silesia, the waters of which are said to be the strongest in Europe. The two springs are very old, and one is 750 metres deep, whilst the other is only 90 metres deep. The quantity of mineral water obtained from both these is more than 20,000 litres per day. They contain in 10,000 parts of water 0·130 parts of silica, 151 of chlorine, 1·021 of bromine, 0·395 of iodine, and 114 of soda, as well as oxide of iron, sulphuric acid, potash, and organic matter. Darkau is the only place where the iodine waters are strong enough for bathing and not too strong for drinking. The temperature of the water is 7° C., and the water comes from tertiary formations through layers of salt, gypsum, and granite. It has a peculiar taste and smell, and it is used in all affections where iodine compounds are indicated, especially scrofulosis, syphilis, and goitre. The place is famous for its cheapness and for the colonies of children sent thereto from all parts of the empire. A stay of four weeks, together with 25 baths and medical attendance and the kurtaxe, is easily covered by £10 or £12.

Bad Hall, in Upper Austria, the rival of Darkau, is a very well-known health resort with the same indications but with weaker waters. There are four springs in the town, of a temperature of 11° C., and producing nearly 100,000 litres per day, which are also exported all over the world in bottles. The water contains in 10,000 parts 0·26 parts of iodine, 0·71 of bromine, and 79·6 of chlorine, as well as sulphuric acid, magnesia, ferric compounds, and carbon dioxide. The waters are used both internally and externally, being not only drunk but also employed for "inhalation," gargles, and fomentations. The number of visitors in 1905 was 1800. The diseases specially suitable for treatment are syphilis and tuberculosis but the excellent country-life opportunities are beneficial also to persons suffering from nervous diseases, anæmia, and hysteria, as well as to those afflicted with exudations into different cavities.

The marine resorts of Austria are all situated on the coast of the Adriatic sea, which is warm and seldom stormy. The water is nearly as concentrated as that of the Baltic sea, whilst the kurorte are quaint small places with Eastern characteristics; Greek, Italian, Turkish and other Oriental features may be seen at every step. Sea-bathing goes on from April to November, as the temperature of the sea varies from 20° to 32°C. (68° to 90° F.), according to the time of the year, and sun and air baths are to be had during five months. The places are invariably ancient relics with modern patches in them. Their early history records many cruel wars or savage devastations by invading Goths or Huns, whilst Venice found one source of its wealth and power in the rich countries on the east of the Adriatic. Now they are parts of the Austrian Empire. A succession of fine harbours begins at Abbazia and reaches as far as Cattaro, with 25 islands lying off the mainland. The name of the country is Dalmatia and the population a mixed race of Slavs, Celts, and Romans. Living is very cheap there and the number of visitors is ever increasing. Then there is Abbazia, which possesses relics 1500 years old, and whose bishops were once rivals of the Pope. The promenade along the sea front is six kilometres in length, and beautiful sands, together with the absence of violent changes in the weather, combine to make it a first-class seaside resort for the anæmic and the neurotic; 20,000 visitors were counted in 1904, amongst them being the Emperor William II. of Germany. There is also Grado, facing south, which with miles of sand and with hours of brilliant sunshine is an ideal place for children. Grado has the best record of sunshine in Austria and is one of the warmest places on the coast. Ancient churches with gravestones from the year 530 prove the age of the town; the concentrated sea-water is very good for scrofulosis and has been known and employed for this purpose ever since that time. Then there are Loorana, Lussin, and Brioni, the last like the Isle of Wight, with a mild, somewhat moist climate and good accommodation, but a little out of the way of the general traffic. In fact, all the watering places of Dalmatia are only beginning to come to the notice of the medical profession as health resorts, but they have a good future before them, for the opportunities which they offer in respect to quiet, climate, influence of the sea, and the sub-tropical outdoor life are not to be found in the fashionable kurorte.

BRITISH MEDICAL BENEVOLENT FUND.

AT the last monthly meeting of the committee 13 applications for assistance were received and sums amounting to £104 were voted in relief to 11 of the cases. Two vacant annuities of £20 were filled by the election of candidates from the selected list. An abstract of the cases to which help was given is appended.

1. M.D. (Aberdeen), aged 54 years. Used to practise in London but was obliged to give up a few years ago and is now making a fresh start in the country. Is promised some help by a friend. Two children, the younger at school. Voted £10.

2. Widow, aged 46 years, of M.D. (Glasg.). Only income a few shillings a week. Two children, aged five and three years. Voted £10

3. Widow, aged 56 years, of L.R.C.P. Edin. Income £10 a year;

slight help from sons. Is endeavouring to obtain a post as housekeeper or companion but finds great difficulty. Voted £5.

4. Widow, aged 52 years, of M.D. Aberd. No income; health very feeble. Two children, but unable to help. Voted £10.

5. Widow, aged 47 years, of M.R.C.S. No income; endeavours to support herself by letting lodgings. A son unable to work owing to ill-health. Voted £12.

6. Daughter, aged 59 years, of late M.R.C.S. Dependent on a Government pension of £14 a year and an annual gift from Lloyd's Patriotic Fund. Health indifferent. Relieved ten times, £60. Voted £5.

7. Daughter, aged 60 years, of late M.R.C.S. No income and mentally deficient. Relieved once, £12. Voted £12.

8. Daughter, aged 67 years, of late M.R.C.S. Only provision a small annuity. Relieved once, £9. Voted £5.

9. Daughter, aged 51 years, of late M.R.C.S. Has supported herself as a teacher but finds she can no longer obtain employment. Relieved once, £10. Voted £10.

10. Widow, aged 66 years, of late M.D. Edin. No income; children unable to help. Relieved three times, £27. Voted £15.

11. Daughter, aged 62 years, of late M.R.C.S. Has a pension of £20 a year. Unable to earn on account of indifferent health and failing sight. Relieved 12 times, £96. Voted £10.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 13th, 1829.

CASE OF AMNESIA.

It is a question yet to be decided, whether the intellectual and moral faculties have for their various modifications distinct organs, or have the brain as a common organ, in which the different faculties may be displayed. This question is to be mainly resolved, it is most probable, by a careful attention to the intellectual phenomena in a morbid state. In this view, the following case, it appears to me, is deserving to be placed on record:—

The Rev. Mr. R., ætat. 48, is of a sanguine temperament, tends to obesity, enjoys excellent health, his intellect of a high order, temper good, and lively. He has lately experienced some mental anxiety. Sept. 5th, 1828, he awoke early with headach, after a restless night. He had taken a sudden cold the previous evening. Some castor oil now exhibited acted freely, and he again laid down. At eleven I was sent for suddenly, and found him in bed, evidently in the full possession of his senses, but incapable of uttering a word. There was frontal pain over the eyes; the tongue was in no way affected. All my questions were perfectly comprehended, and answered by signs; and it could be plainly seen, by the smile on the countenance, after many ineffectual attempts to express his ideas, that he was himself surprised, and somewhat amused, at his peculiar situation. The face at this time was flushed, the pulse full and somewhat slow, and to my inquiries if he suffered pain in the head, he pointed to the front of his forehead as its seat. I directed hot water to be brought in a bucket, for a pediluvium, and made preparations to draw blood. Mr. R. exhibited at this time a strong desire to speak, and, after a great many ineffectual efforts, endeavoured to make me comprehend his meaning by signs. Finding I could not understand him, he made a sign that he would write. When furnished with pen and paper, he attempted to convey his meaning, but I saw he could not recall words, and that he had written an unintelligible phrase; it was "Didoes doe the doe." Forty ounces of blood were drawn from the arm, and before the operation was completed, speech was restored, though a difficulty continued as to the names of things, which could not be recalled. The bleeding and pediluvium produced some faintness, and he was placed in bed. The loss of speech appearing to recur again, in fifteen minutes, ten ounces more of blood were abstracted, and sinapisms applied to the arms, legs, and thighs, alternately: the skin became moist, and the headach was relieved. Mr. R. now communicated to me, that when he made the attempt to write, he had intended to inform me he had already used a foot bath, and I might see the floor still wet, where the water had been spilt. The sleep that night was disturbed by uneasiness and throbbing in the head, which disappeared in the course of the 6th, and no further return of the affection has occurred.

The inference to be drawn from these facts are, 1st. That as the cerebral irritation produced no general affection or disturbance of the functions of the brain, it was local or limited: and, 2d, as loss of language was the only functional derangement of the intellectual faculties, that faculty must have been connected with the portion of the brain, the seat of the irritation; and 3d. That an organ of language exists in the brain. This case lends a strong confirmation to the general truth of the doctrines of Phrenology. —*Dr. S. Jackson, Pennsylvania.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8846 births and 4213 deaths were registered during the week ending June 8th. The annual rate of mortality, which had been equal to 15·1, 14·9, and 14·5 per 1000 in the three preceding weeks, further declined to 13·7 in the week under notice. During the first ten weeks of the current quarter the death-rate in these towns has averaged 15·7 per 1000, the rate in London during the same period being 15·2. The lowest annual death-rates in the 76 towns during the week were 4·9 in Burton-on-Trent, 5·9 in Barrow-in-Furness, 7·0 in Walthamstow, and 7·5 in Hornsey; the highest rates were 20·5 in Middlesbrough, 23·1 in St Helens, 23·6 in Huddersfield, and 23·8 in Tynemouth. The 4213 deaths in the 76 towns showed a further decrease of 229 from the steadily declining numbers in recent weeks, and included 463 which were referred to the principal epidemic diseases, against 474 in each of the two preceding weeks; of these, 193 resulted from measles, 130 from whooping-cough, 49 from diarrhœa, 48 from diphtheria, 30 from scarlet fever, 13 from "fever" (principally enteric), and not one from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·5 per 1000, the rate from the same diseases in London being 1·6. No death from any of these epidemic diseases was registered last week in Plymouth, Stockport, Rochdale, Devonport, Hastings, Rotherham, Barrow-in-Furness, or Stockton-on-Tees; the annual death-rates therefrom, however, ranged upwards to 3·0 in Portsmouth, 3·1 in Hanley, 3·7 in Bolton, 4·1 in Wigan, 4·2 in Tottenham, and 5·6 in Middlesbrough. The fatal cases of measles, which had been 214, 207, and 201 in the three previous weeks, decreased to 193 in the week under notice; the highest death-rates from this disease were 1·9 in Blackburn, 2·1 in Gateshead, 3·1 in Hanley and in Bolton, and 5·1 in Middlesbrough. The 130 deaths from whooping-cough were in excess of the numbers in the two preceding weeks; the annual death-rates from this cause ranged upwards to 1·3 in Tottenham and in Newcastle-on-Tyne, 1·4 in South Shields, 1·6 in Walsall and in Wallasey, and 1·9 in Tynemouth. The deaths referred to diarrhœa, which had been 51, 51, and 47 in the three previous weeks, were 49 last week. The 48 fatal cases of diphtheria corresponded with the number in the preceding week; the mortality was highest in Portsmouth, Reading, and Norwich, being equal in each case to an annual rate of 1·3 per 1000. Of the 30 deaths from scarlet fever, 11 occurred in London, four in Liverpool, and one in each of 15 other towns; while the 13 cases of "fever" included three in London, two in Manchester, and one in each of eight other of the 76 towns. The number of scarlet fever cases in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2679, 2732, and 2824 at the end of the three preceding weeks, had further risen to 2861 at the end of the week under notice; 368 new cases were admitted during the week, against 363, 382, and 437 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 235, 230, and 192 in the three preceding weeks, further declined to 186 last week, but were 14 in excess of the number in the corresponding weeks of the five preceding years. The causes of 41, or nearly 1 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, and in 50 other of the 76 towns; the proportion of uncertified deaths, however, again showed a marked excess in Liverpool, Birmingham, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·7 17·5, and 16·7, per 1000 in the three preceding weeks, rose again to 19·0 in the week ending June 8th, and exceeded the rate in the 76 English towns by 5·3. The rates in the

eight Scotch towns ranged from 17·2 in Edinburgh and 18·4 in Glasgow to 21·1 in Dundee and 29·9 in Perth. The 660 deaths in the eight towns showed an increase of 80 over the number in the previous week, and included 109 which were referred to the principal epidemic diseases, against 112, 92, and 91 in the three preceding weeks. These 109 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 1·6 the rate from the same diseases in the 76 English towns; they included 57 which were referred to whooping-cough, 26 to "fever," 13 to diarrhœa, seven to measles, four to diphtheria, two to scarlet fever, and not one to small-pox. The fatal cases of whooping-cough, which had been 52, 39, and 38 in the three preceding weeks, rose again last week to 57, of which 37 occurred in Glasgow, seven in Dundee, four in Edinburgh and in Paisley, and two in Aberdeen and in Greenock. The deaths referred to "fever," which had been 41, 28, and 24 in the three preceding weeks, were 26 in the week under notice, and included 16 in Glasgow, five in Edinburgh, three in Leith, and two in Paisley; all these deaths, except one in Glasgow and one in Paisley, were certified as from cerebro-spinal meningitis. The fatal cases of diarrhœa, which had been seven, nine, and 14 in the three preceding weeks, decreased last week to 13, of which eight were registered in Glasgow, three in Dundee, and two in Aberdeen. The seven deaths from measles corresponded with the number in the preceding week and included five in Glasgow and two in Leith. Two of the four fatal cases of diphtheria occurred in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had declined from 127 to 82 in the five preceding weeks, rose again to 106 last week, and were 11 in excess of the number in the corresponding week of last year. The causes of 28, or 4·2 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 26·7, 25·8, and 23·1 per 1000 in the three preceding weeks, rose again to 23·9 during the week ending June 8th. During the first ten weeks of the current quarter the death-rate has averaged 26·5 per 1000; the mean rate during the same period did not exceed 15·2 in London and 17·7 in Edinburgh. The 179 deaths of Dublin residents registered during the week under notice were six in excess of the number in the preceding week, and included 11 which were referred to the principal epidemic diseases, against seven, 17, and 13 in the three previous weeks; of these, six resulted from measles, four from whooping-cough, and one from diphtheria, but not any from small-pox, from scarlet fever, from "fever," or from diarrhœa. These 11 deaths were equal to an annual rate of 1·5 per 1000, the rate during the same period from the principal epidemic diseases being 1·6 in London and 1·5 in Edinburgh. The fatal cases of measles, which had been six and four in the two preceding weeks, rose again to six in the week under notice; while the deaths from whooping-cough, which has been ten and eight in the two preceding weeks, further declined to four. The 179 deaths from all causes in Dublin last week included 27 of children under one year of age and 47 of persons aged upwards of 60 years; the deaths of infants were slightly in excess of the number in the preceding week, while those of elderly persons showed a considerable decline. Five inquest cases and five deaths from violence were registered; and 71, or nearly two-fifths, of the deaths occurred in public institutions. The causes of two, or 1·1 per cent., of the deaths in Dublin last week were not certified; in London the cause of only one death was uncertified, while in Edinburgh the percentage of uncertified deaths was 7·9. The 161 deaths registered in Belfast during the week under notice included 10 which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: W. H. Daw to Gibraltar Hospital; and E. F. Mortimer to the *Vindictive*.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenant-Colonels retire on retired pay: George E. Twiss and John L. Hall (dated June 8th, 1907).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Charles Graham Grant to be Surgeon-Lieutenant-Colonel (dated May 28th, 1907). Surgeon-Major James Drummond, having been appointed to the command of the 3rd Durham Royal Garrison Artillery (Volunteers), ceases to belong to the Army Medical Reserve of Officers.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Captain (Honorary Captain in the Army) H. E. Mortis to be Major (dated April 24th, 1907).

CHANNEL ISLANDS MILITIA.

The Royal Militia of the Island of Jersey: Medical Company: Henry John Shone to be Surgeon-Lieutenant (dated May 25th, 1907).

VOLUNTEER CORPS.

Rifle: 1st Surrey (South London) Volunteer Rifle Corps: Surgeon-Lieutenant D. O. Kerr to be Surgeon-Captain (dated May 1st, 1907). 4th Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Supernumerary Surgeon-Lieutenant W. J. Woodman to be Surgeon-Captain, remaining supernumerary (dated May 2nd, 1907). 1st Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Lieutenant-Colonel W. H. Packer is granted the honorary rank of Surgeon-Colonel (dated April 20th, 1907). 1st Herefordshire Volunteer Rifle Corps: Surgeon-Lieutenant J. N. Macmullan to be Surgeon-Captain (dated Nov. 1st, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command: Aberdeen Companies: Lewis Davie Cruickshank to be Lieutenant (dated May 7th, 1907).

The annual inspection of the London Companies of the Royal Army Medical Corps (Volunteers), as well as of the Bearer Companies of 1st, 2nd, 3rd, and 4th London Infantry Volunteer Brigades, by Colonel Sloggett, C.M.G., will take place in Hyde Park (Guards' Ground) on Saturday, June 15th, at 5.30 P.M. The proceedings are expected to have additional interest from the inclusion of a field ambulance station and a demonstration of carrying patients in cacolets.

THE GOVERNMENT'S NEW ARMY BILL.

It is a matter of such wide extent and importance as to be especially noteworthy that on June 10th the Territorial and Reserve Forces Bill was again considered and finally passed by the House of Commons in committee. The Earl of Wemyss had on the same day in the House of Lords asked a number of questions as to the army having a distinct bearing on the new scheme and had been replied to by the Earl of Portsmouth. In the course of the debate in the Commons a good many important points were raised by the Opposition on amendments which were, however, defeated and the guillotine resolution then came into operation. All the clauses and schedules were adopted and, as we have already said, the Territorial and Reserve Forces Bill was successfully passed through its final committee stage.

Correspondence.

"Audi alteram partem."

THE MEDICAL SCHOOL OF GUY'S HOSPITAL AND THE CONCENTRATION OF EARLY MEDICAL STUDY.

To the Editors of THE LANCET.

SIRS,—The following letter has been addressed by the treasurer of Guy's Hospital (Mr. Cosmo O. Bonsor) to the Principal of the University of London:—

As treasurer of Guy's Hospital I have to bring to your notice the following resolution passed at a school meeting on the 7th inst. and approved by me: "That, in view of the resolution of June, 1905, that the Medical School of Guy's Hospital is not committed to any particular line of action with regard to the concentration of preliminary and intermediate studies, the school now desires the treasurer to inform the Senate of the University of London that it is of the opinion that the proposed scheme of three centres for the teaching of such subjects at University College, King's College, and South Kensington, and the institution of internal examinations at these centres, would not be to the advantage of medical education in

London, and that it does not propose to abandon the teaching of the preliminary and intermediate subjects under these circumstances."

I desire to add that this decision must not be construed as adverse to the principle of the concentration of the preliminary and intermediate medical studies in the University, but solely as directed against the particular proposals for concentration indicated in the resolution.

Believe me, Sirs, yours faithfully,

June 11th, 1907. HERBERT L. EASON, Dean.

A SOCIETY FOR THE PREVENTION OF VENEREAL DISEASES.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to ask your correspondent, "H. N. R.," if he has read the report of the Departmental Committee of the Local Government Board on the deterioration of public health? Has he also read the many articles, annotations, and letters which have appeared in your columns showing the inadequacy of hospital accommodation for venereal diseases throughout the whole of the United Kingdom? Consideration for your space induces me to ask him to send me his name and address; I can then send him additional information which he may find useful.

I am, Sirs, yours faithfully,

FRED. W. LOWNDES.

40, Knight-street, Liverpool, June 11th, 1907.

THE HOSPITAL FUNDS AND THE EXCLUSION OF SCOTTISH DIPLOMATES FROM THE MAJORITY OF LONDON HOSPITALS.

To the Editors of THE LANCET.

SIRS,—On behalf of the council of the Association of Medical Diplomates of Scotland I beg to draw your attention to what we consider a grave injustice to those holding the diploma of the Scottish colleges. We refer to the clause in the laws of many medical charities of the metropolis making the possession of a London qualification an essential condition of election to a post on the honorary medical and surgical staffs. The effect is to make those posts a monopoly in the hands of certain London corporations. We submit that this practice inflicts a gratuitous injury upon the diplomates of the Scottish colleges who have obtained their legal qualifications after stringent examination. We submit that the exclusion of which we complain is contrary to the elementary grounds of justice and that its result, if not its intention, is to swell the ranks and to increase the revenues of certain London corporations at the expense of rival colleges, of Scottish diplomates, and, as we think, of the community in general. This arbitrary practice is, in our opinion, a relic of class privilege absolutely out of touch with the trend of modern thoughts and ideas and one calculated to close the door to many a fine career and in the long run to inflict injury upon the public by narrowing the field of competition. If the London qualification be of such supreme excellence why should their holders fear competition in the open market? Why resort to such a weapon as disqualification of all Scottish and Irish competitors? This exclusion of Scottish diplomates from the majority of London and provincial hospital appointments has been going on for many years. Our present object, however, is to draw attention to its revival in an insidious form and its imposition by a side issue upon two institutions that previously welcomed Scottish diplomates to their honorary staffs. We wish to show how the Hospital Sunday and King Edward's Funds have helped, doubtless unwittingly, to bring about that injustice.

There were lately three London orthopædic hospitals—the Royal, the City, and the National. The above-mentioned funds have for some years pressed the policy of amalgamation upon these hospitals by every means in their power. Of these three hospitals the Royal and the City admitted Scottish diplomates to their staffs, while the National excluded them. All three institutions are now amalgamated. It seems incredible that the funds should have permitted the new charter of the consolidated hospitals to exclude Scottish diplomates. Such, however, has been the case. In other words, the National Orthopædic Hospital has been enabled to force its exclusiveness upon the other two partners in the new institution. One holder of a Scottish qualification has been allowed to join the new staff, apparently in defiance of the charter. Another member of the City Orthopædic has been denied any staff appointment in the new institution on the ground of not possessing a higher English qualification. That gentleman naturally protested against his exclusion. To investigate the facts of the case Sir Edmund Hay Currie was appointed arbitrator. His report stated that: (1) the charter could be amended; (2) that an exception should be made in favour of the gentleman concerned; and (3) that the conditions as to qualification would doubtless be retained in the new charter.

We submit, Sirs, that this charter in its present form is unjust, inasmuch as it excludes Scottish diplomates. We submit further that its amendment should be made to cover not only the specific hard case of a single Scottish diplomate but to throw open all staff appointments to all registered medical practitioners.—I am, Sirs, yours faithfully,

CLAUDE ST. AUBYN-FARRER, President.

Chandos-street, W., May 31st, 1907.

THE ESTIMATION OF SUGAR.

To the Editors of THE LANCET.

SIRS,—An annotation in THE LANCET of May 25th describes Swiatecki's method of ascertaining the amount of sugar in urine by the tint obtained by boiling with an alkali. This is, of course, a quantitative application of Moore's test. The method, in a much less elaborate form, which has been long available, deserves to be more widely known on account of its extreme facility. I worked it out with glucose many years ago and communicated it to Sir Lauder Brunton, who quoted it in his article on "Diabetes" in Reynolds's "System of Medicine," Vol. V., 1879, p. 396. It is also given by Dr. R. W. Leftwich in his "Index of Symptoms," third edition, and in Martindale's "Extra-Pharmacopœia." It enables an approximation to the amount of sugar to be obtained, without apparatus, in two minutes, and depends on the tint obtained on boiling for 30 seconds a mixture of equal parts of liq. potassæ and the urine. It is best observed by boiling the upper half of the mixture in a test-tube. If the mixture is still tinted the urine must (as you state) be decolourised, which is quickly done by filtering through paper on which a little animal charcoal has been sprinkled. The amount of sugar corresponds closely to the following simple tint scale. If lemon yellow, five grains per ounce; if pale sherry, ten grains; if dark sherry, 15 grains; if port wine colour, 20 grains per ounce and upwards. In the latter case it is necessary to dilute the urine with an equal part of water and repeat the process. I have often had a skilled analysis afterwards made and never found the amount differ much from the result obtained. I have tried to produce fixed colour standards, but the exactness obtainable seemed insufficient to compensate for the trouble. Not only is a precise comparison of tint difficult, but if the sugar is more than ten grains per ounce the colour is deepened unduly by too long boiling. No method of applying copper reduction to dilution can be made a practical speedy indication, but this quantitative use of Moore's test is a useful illustration of "the practical service of imperfect means."

It should not be forgotten that we owe the familiar "Moore's test" to a general practitioner of Bourton-on-the Water, Gloucestershire, who died not many years ago.

I am, Sirs, yours faithfully,

May 29th, 1907. WILLIAM R. GOWERS.

THE PROCEEDINGS AT THE RECENT MEETING OF THE GENERAL MEDICAL COUNCIL: A CORRECTION.

To the Editors of THE LANCET.

SIRS,—In your report of the proceedings of the General Medical Council of Thursday, May 30th, in THE LANCET of June 8th, p. 1593, I am made out to have said that there is a lack of opportunity of obtaining midwifery cases for London students. This is a complete misunderstanding, as I opposed the resolution of Sir C. Ball to reduce the number (20) of cases of labour to be attended by each student; and I have never heard that students in London have had, or now have, the least difficulty in obtaining this number of labours to attend. I said that there was, and would be for some time, difficulty in obtaining for the whole of the students in London regular daily attendance upon the indoor practice of

a lying-in hospital, or the lying-in wards of a general hospital.—I am, Sirs, yours faithfully,

HENRY MORRIS,
Representative of the Royal College of Surgeons of England on the General Medical Council.

Cavendish-square, W., June 11th, 1907.

A REPUDIATION.

To the Editors of THE LANCET.

SIRS,—It has just come to my notice that reprints of an article I wrote recently have been circulated with a trade advertisement. This was done without my knowledge or consent, and I have already insisted upon its discontinuance. I should be much obliged if you would publish this in the next number of THE LANCET.

I am, Sirs, yours faithfully,

Edgbaston, Birmingham, June 8th, 1907. W. A. POTTS.

VALUE OF HIGH-FREQUENCY SPARK AS A LOCAL APPLICATION.

To the Editors of THE LANCET.

SIRS,—Dr. Morton's note on high-frequency current as a stimulant for the growth of hair is interesting. I may say that I first used high frequency to the scalp in June, 1902. The patient was a lady, about 30 years of age, who had some early osteo-arthritic changes in the small joints of the hand and came to me complaining of slight seborrhœic rash on the face and considerable thinning and falling of hair. The results were brilliant. A thick growth of hair of good quality ensued, but unhappily the same application failed afterwards in apparently similar conditions. Now and then I find it useful in cases of premature partial alopecia, but not where the baldness is complete. To the latter statement there is an exception in the case of alopecia areata, in which hair often grows rapidly under the influence of the high-frequency current. But then, it should be remembered, it responds equally well to other forms of electrical current that redden the scalp. I have not found the high-frequency current of much use in cases of universal alopecia, whereas the continuous current is often satisfactory and invaluable. This latter fact was pointed out to me by my friend and colleague, Dr. Arthur Harries, who has done much work with the continuous current.

It seems to me that there remains a great deal to be solved in the etiology and pathology of alopecia areata, and that to some extent the key may be found in the therapeutic effects of various forms of electrical treatment.

I am, Sirs, yours faithfully,

London, W., June 4th, 1907. DAVID WALSH.

PS.—I may add that the high-frequency current was applied by contact with a water-filled glass electrode and in area cases also by a metal electrode with an air gap.

SOME MORALISING ON THE WEATHER.

To the Editors of THE LANCET.

SIRS,—The proverbial uncertainty of the English climate may cause a recapitulation of the unpleasant effects which its vagaries bring about to seem the whipping of a jaded horse, but the recent lamentable behaviour of May as exposed in an interesting leading article in THE LANCET last week surely affords a sufficient text upon which to hang some such reflections, the more especially as at present her successor has shown no sign of repentance. It may perhaps seem especially a warning of supererogation again to insist on the extreme importance of going warmly clad in a season when there may be a difference of 20 degrees of temperature on consecutive days, but in spite of oft-repeated warning of ancient adages and modern medicine every early summer claims its toll of lives amongst those who have neglected to profit by them. It is obviously a difficult matter to regulate the underclothing to the exigencies of such weather as we have recently experienced, but the old rule is the safe one, to be prepared for the worst, even though it involves severe discomfort in the unforeseen event of a sudden day of sunshine. To all who have passed through an attack of influenza during the late winter this counsel is of vital importance, for they are especially liable to the unwelcome ministrations of the pneumococcus, and in persons predisposed to tuberculosis a month such as the last should prove a fertile time for the seed-sowing of that malady. The continuation of the various catarrhs that winter visits upon our mucous membranes is a less serious, but still a very unwelcome, result of the weather and is well worth guarding against.

But not the least of the ill-effects of a summer *manqué* is the moral one of starting day after day with a personal sense of irritation against the elements. Not even the egregious optimist who cheerily breaks the ice on the Serpentine for his December plunge greets a bleak and gusty day of June with approbation. The beginning of the day in this irritated state of mind must needs react upon the work that is to do. That work is more unwelcome, and set-backs in its accomplishment are doubly vexing, which is only another way of saying that it is harder and that to do the usual amount is accompanied with unusual fatigue. The medical practitioner knows that this is the state of mind and body which leaves a man susceptible to pathological attacks and woman no less so than man, while woman's particular work is much affected by a winterly summer. For in the domestic sphere the restarting of fires after the sweeping and garnishing incidental to spring cleaning proves a grave trial to the careful housewife rejoicing in her dustless carpets and cornices, or the no less careful parent who has stored away carefully all her children's winter clothes.

There are oft-repeated circumstances pointing to a relationship between unseasonable weather and suicide, but until the Registrar-General has spoken I do not know if any increase in the number of suicides can be adduced to justify this denunciation of the May just gone. But I shall be surprised to learn that medical practitioners have not found it their general experience that during the month minor ailments were more obstinate than usual against treatment, even when their etiology had no definite connexion with climatic conditions, and that, speaking generally, the sick, whether seriously or only trivially affected, have shown decreased powers of resistance.

I am, Sirs, yours faithfully,

June 10th, 1907. M.B.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

ALTHOUGH it is not yet the middle of June the summer session seems to be rapidly approaching its termination, for the examinations have commenced, and, indeed, the third medical examination, including materia medica and pathology, has already terminated, about three-fourths of the candidates having been successful in both subjects. The early commencement of the examinations might appear at first sight to be a distinct disadvantage to the students, inasmuch as it lessens the period of preparation as compared with other schools; nevertheless, as the system has worked well in the past there does not seem to be any obvious reason for changing, and it has the advantage of providing a long summer vacation which, to a certain extent, compensates for the short spring recess. The post-graduate lectures have been even more than usually successful this summer. Professor R. F. C. Leith lectured on the Present Position and Value of the Widal Reaction, Dr. C. J. Lewis dealt with the Bacteriological Diagnosis of Diphtheria, and Dr. J. Miller with Opsonins. Each subject was fully considered, all the latest facts being placed by the lecturers before their large audiences in a clear and concise manner, so that everyone could readily form his own opinion of the practical value of the processes dealt with. The last lecture, by Dr. John Robertson, on the Value of Preventive Methods against Infectious Diseases, was to have been given on June 13th, but it has been found necessary to postpone it for a week; it will be delivered therefore on Thursday, June 20th, at the usual time.

Birmingham Open Spaces and Playing Fields Society.

In a previous letter I drew attention to the attempt that this energetic society was making to secure the Black Patch as an open area in a crowded district and there is now no doubt that the attempt will be successful. It is probable also that

the further attempt to acquire 1167 square yards in the surely ironically named Oxygen-street, and two other plots, one in Communication-road and the other in Lawford-street, for the purpose of making playgrounds for children in much congested districts, will also be accomplished. The total sum required is £12,500, and £7750 have already been promised. This includes two sums of £1000 each promised by the Smethwick town council and the Handsworth district council towards the purchase of the Black Patch which will be of great value to both districts as well as to Birmingham. Our city at present is woefully devoid of breathing spaces in its thickly populated areas but the activity of the young but very vigorous Open Spaces Society seems likely to change matters for the better in a comparatively short space of time.

The Crippled Children's Union.

The chairman of the union, Mr. Montgomery Hooper, was in a justifiably optimistic humour when he presented the annual report at a recent meeting, for the previous year's deficiency of £264 had been reduced to £38, and the work of the union had been dealt with in the usual way. Apparently one of the chief difficulties which the society has to face is that of making adequate provision for those cases which require a long period of treatment in the country, but it is intended to make a special appeal on behalf of these cases. The directors of the union desire, if possible, to establish a convalescent home capable of dealing with about 40 children. They already possess a site, but they are considering the advisability of selling it and acquiring another at a higher level. They calculate that they will require £6000 for the accomplishment of their desire and £3000 have already been given.

Birmingham Medical Mission.

Each year the ladies' committee of this deserving charity holds a sale of work for the purpose of adding to the too scanty funds of the mission, by means of which much suffering and sorrow are relieved. It was hoped that this year the sum realised would not be less than £250. The sale extended over two days. On the first day it was opened by Mr. Jowett and on the second by Dr. T. Stacey Wilson, and fortunately the result was better than the anticipation, for the total obtained was £278. This, after all, is but a small sum to be scattered over a very large area for the immediate relief of some of the suffering which is only too prevalent in our crowded areas.

Hospital Collections.

It is customary to make an annual Saturday collection in the West Bromwich and Oldbury districts in aid of the West Bromwich District Hospital. This year the sum collected in West Bromwich amounted to £938, or £9 more than last year, and in the Oldbury district £288 were collected which is also a slight advance on the collection of the preceding year.

Health of Handsworth.

In presenting his annual report Dr. R. A. Lyster, the medical officer of the Handsworth urban district, drew attention to the urgent necessity for the consideration of proper hospital accommodation and he pointed out the unsatisfactory position of the district should it be invaded by a serious epidemic. He also emphasised the unsatisfactory nature of the accommodation provided for the health department and he stated that the present staff was inadequate for the needs of the district. The death-rate for the year was 11·1, being slightly higher than in the preceding year, and the birth-rate was 22·6, as compared with 22·7 for 1905. The most satisfactory feature of the report was the low death-rate from tuberculous diseases, 0·86 per 1000, which is a lower rate for these diseases than the surrounding districts can show.

Health of Birmingham.

The death-rate of the city keeps in what may be considered a fairly satisfactory condition. Three weeks ago it was 14·6 per 1000, a week later it fell to 14·4, and last week it rose to 15·9. The only really unsatisfactory feature of our health at present is the continued prevalence of scarlet fever, measles, and diphtheria, in spite of all care and precautions. Last week the number of cases in the fever hospital decreased to 314 from 317, but it had risen in the previous week to the latter number from 312. The fluctuations are slight but the total number is greater than is desirable.

June 11th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Country Hospital for Chronic Diseases of Children.

Mr. Holbrook Gaskell has added to his many acts of philanthropy a splendid gift of £5000 to complete the fund for the building of the Liverpool Country Hospital for Children at Heswall. Mr. Gaskell has expressed a wish that in an appropriate manner it should be recorded in the hospital that the gift is in commemoration of the labours of Miss Sedgwick and Dr. C. J. Macalister in commencing and bringing to a successful issue the great work which has been the pioneer of similar institutions on the same principle. Mr. Gaskell has already presented to the hospital a memorial of the eminent services of Mr. Robert Jones in a fine operating theatre. The hospital has carried on its work since 1899 in temporary premises at West Kirby, and whilst wishing the Lord Mayor of London every success in emulating and even advancing upon what Liverpool has already accomplished it is mere justice to give Liverpool the credit of being the pioneer in the British Isles of the provision of an institution devoted to the care of crippled children. The predecessor of Liverpool in this matter was France. The United States ran Liverpool closely in following the French example. Dr. Macalister points out in a communication to the local press that more money is required to complete Liverpool's scheme. In response to the appeals of the committee, generous donors have contributed handsomely to the building fund. One gentleman, at his own expense, is building the administrative block at a cost of about £8000; an anonymous donor has given £5000, and many others have contributed largely; and now at Heswall the central and administrative blocks of what will probably be the finest children's hospital of its time in the kingdom are nearing completion. Dr. Macalister emphasises the fact that not one penny has been spent on useless ornamentation. The hospital building is extremely plain, but internally its construction is as perfect as thought and experience can make it. It will, when fully completed, accommodate 200 children and will be worthy of the city with which it is connected. The *Liverpool Daily Post and Mercury* points out that "the institution owes its existence almost as much to Mr. Holbrook Gaskell and Miss Gaskell as to Dr. Macalister and Miss Sedgwick. They warmly accepted the idea. They saw its distinctive excellence and its humane capabilities. Their devotion to it was steadfast. Their encouragement sustained its working promoters."

Civic Grant to the University of Liverpool.

The report of the Treasury Commissioners on the work of the University has just been issued and is most satisfactory. The Commissioners state that the University is performing its functions with efficiency. "It is a university in the fullest sense of the term, providing a broad and generous education on the older as well as on more modern lines." This statement must be pleasing to the city council, in that it assures it that its grant is well spent. The report deals with the excellence and quality of the research work which is carried on at the University. There is one suggestion made by the Commissioners which might with advantage be adopted by the city council. The Treasury makes its university grants for a period of five years, and it would be a great convenience if this practice were adopted by the city council. It would assure the University council of the amount of money at its disposal if the civic grant were made a quinquennial instead of an annual one. The annual income of the University is now £61,000 drawn from four sources. Over £17,000 a year are derived from endowments, £15,000 from students' fees, £2000 from annual subscriptions for various purposes, and £26,000 from public funds. About one-half of the public money comes from the Government; the other half is supplied by the corporations of Liverpool, Birkenhead, and Bootle, and the county councils of Lancashire and Cheshire. Over £11,000 are devoted annually to the maintenance of the buildings and the provision of service and equipment and materials for the scientific laboratories, and £6000 for scholarships and fellowships. The proposal to renew the annual grant of £10,000 to the University came before the city council at its meeting on June 5th and was carried *nem. con.* The report of the Treasury Commissioners appeared at an opportune time, considerably strengthening the hands

of the finance committee in its recommendation to the city council to renew the grant.

Queen Alexandra Sanatorium, Davos: Meeting at the Town Hall.

A meeting in connexion with the Queen Alexandra Sanatorium, Davos, was held in the council chamber of the Liverpool town hall on June 10th. In the absence of the Lord Mayor the chair was taken by Sir Alfred Jones, K.C.M.G., and amongst those present were Lord Balfour of Burleigh, Sir James Barr, Sir Edward Russell, and many influential citizens. Sir James Barr moved a proposition to the effect that a fund for donations be opened in Liverpool in support of the scheme for providing an English sanatorium at Davos, which was carried. Lord Balfour addressed the meeting and described the perfect sanitary conditions of Davos and its advantages generally. The scheme aimed at aiding the lower middle-class and they offered medical treatment, with board, residence, and all the concomitants for one and a half guineas a week, which was almost as cheap as the treatment received at home. Lord Balfour mentioned that other towns had contributed liberally to the fund. Belfast had given £700 and he thought Liverpool could easily double that sum.

Proposed New Small-pox Hospital at Birkenhead.

The Birkenhead town council had before it at a meeting on June 5th the proposals of the health committee to extend the infectious diseases hospitals at Flaybrick-hill. The medical officer of the Local Government Board stated that the board was not in existing circumstances prepared to consider the application of the Birkenhead town council for sanction to borrow money for the erection of additional ward pavilions on the present site, but would be prepared to consider the application as regards the alterations and additions to the administrative block, the erection of a lodge and discharging block, and the reconstruction of the laundry block with the necessary machinery, upon certain undertakings being given by the town council. The inspector had further impressed upon the members of the sub-committee the desirability of the acquisition by the town council as early as possible of a separate site on which to erect a hospital for the treatment of small-pox patients. The committee recommended the purchase for £1069 of a piece of land, containing nearly nine and three-quarter acres, at Willaston as a site for a small-pox hospital in the event of the scheme not being opposed by the Wirral district council.

The Medical Officer of Health of Bootle.

Mr. T. W. N. Barlow, the medical officer of health of Bootle, will be called to the Bar this month, having successfully passed his examinations in English law for students of the Inns of Court.

June 11th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

A Milk-borne Epidemic of Scarlet Fever.

THE medical officer of health of Cardiff (Dr. E. Walford) has recently reported upon the circumstances attending an outbreak of scarlet fever during the second fortnight in May. Of the 37 cases of the disease notified during this period in a particular district 21 were supplied with milk from the same dealer and upon investigation it was found that the daughter of the farmer who supplied the milk was suffering from scarlet fever and that two other members of the family had had sore throats but no other well-defined symptoms. About 13 per cent. of the 150 houses supplied from this farm were infected. The supply of milk was promptly stopped and the outbreak was checked. Cardiff is well supplied with accommodation for the isolation of scarlet fever patients and the inhabitants make good use of the facilities provided. In the last few years as many as 75 per cent. of the cases of scarlet fever notified have been removed to the city isolation hospital. Expressed in percentages of the cases notified the mortality was 5 per cent. in the year 1891 before the hospital was opened, but in 1906 it was reduced to 0·4 per cent.

Gelligaer and Rhigos Isolation Hospital.

It has been decided by the Gelligaer and Rhigos district council to erect an isolation hospital at a cost of about £11,000. A site has been purchased for £260. The district adjoins Merthyr Tydvil and a portion is essentially rural in character, though there are many parts with urban features, and there are large collections of workmen's dwellings in which proper isolation of infectious disease is almost an impossibility.

Carmarthen Asylum.

The committee of visitors of the Joint Counties Asylum at Carmarthen has elected Dr. John Richards as medical superintendent of the asylum in succession to Dr. Edwin Goodall who was appointed last year superintendent of the asylum now approaching completion at Cardiff. Dr. Richards is at present senior assistant medical officer in the Leicestershire and Rutland Asylum and was formerly assistant medical officer in the Derby Borough Asylum. The Carmarthen Asylum has accommodation for 630 patients who are received from the three counties of Cardigan, Carmarthen, and Pembroke.

The Question of a County Medical Officer of Health for Monmouthshire.

In a recently issued report upon the sanitary administration of Ebbw Vale, a colliery district in Monmouthshire, Dr. Reginald A. Farrar, one of the medical inspectors of the Local Government Board, recommended that a medical officer of health should be appointed for Ebbw Vale and the adjoining districts who should devote his whole time to public health work. This recommendation has been discussed by delegates from the district councils concerned and they have arrived at the conclusion that a joint appointment for a combination of districts is not desirable, and in a communication addressed to the Local Government Board it has been pointed out by the delegates that the sanitary authorities are making strenuous efforts to improve the sanitation of their districts. It is very much to be regretted that this decision has been come to, for in increasing localities such as those in the Monmouthshire valleys, where the districts, though under different sanitary authorities, are actually close together, it is especially important that there should be uniformity of administration. Dr. Farrar's recommendation, if adopted, would most certainly make for efficiency and would be really economical. The county council has endeavoured to come to the assistance of the district councils by asking the Local Government Board to agree to the existing system of part-time medical officers of health at small salaries, provided a county medical officer is appointed "to supervise the work of the local officers." In this last expression there is displayed deplorable ignorance of the duties of a county medical officer who is the sanitary adviser of the county council and not the superior officer of the medical officers of health of urban and rural districts.

Schools and Pulmonary Tuberculosis.

At a meeting of the Devon education committee held on June 6th, under the presidency of Sir Thomas Acland, it was moved that no person should be employed in any school under the control of the committee who was suffering from pulmonary tuberculosis. The feeling of the committee was in favour of the proposal, but it was decided to refer the matter to a subcommittee in order that it might be carefully considered.

A Proposed Cornish Sanatorium for Consumptive Patients.

The Redruth board of guardians has been urging upon other boards of guardians in Cornwall the advisability of the Poor-law unions in the county uniting in the provision of a sanatorium for consumptive patients. The majority of the answers are not favourable to the proposition, the opinion being expressed that the guardians would derive all the benefits that they can wish by subscribing to the Didworthy Sanatorium on Dartmoor.

June 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

"The Really Useful in Electro-therapeutics."

AN interesting lecture on this subject was delivered on the evening of May 31st in the Western Infirmary, Glasgow, by Dr. H. Lewis Jones of St. Bartholomew's Hospital. There was a large and representative audience of medical men from Glasgow and the West of Scotland. In dealing with the

advance that had been made in the subject within the last 16 years Dr. Jones pointed out that this had been greatly facilitated by the unlimited supply of electricity now available, owing to the energy of corporations and public companies. 12 years ago it had been quite a common occurrence for an electrical specialist to be asked to attend at a bladder examination with his cystoscope but so widespread had the knowledge of these previously little known appliances become that the rôle nowadays of the electrical specialist seemed to be to explore and to open up new fields and then to hand them over to the physician and surgeon. As regards diagnosis by means of electricity reference was made among other things to the diagnosis of obscure peripheral nerve lesions, cervical ribs, tubercle in the lungs, aneurysm of the aorta, and fracture of the base of the fifth metatarsal bone. In passing it was suggested that the present methods of electrical testing of nerves and muscles were antiquated and unsatisfactory and would have to be put on a better basis. In connexion with treatment Sabouraud's method of dealing with ringworm was described, also the treatment of rodent ulcer, tuberculous glands in the neck, and leucocythæmia by x rays. The treatment of cutaneous nævus by sparking with high-frequency sparks so as to produce a superficial burn was recommended, but skill was needed, otherwise it was impossible to prevent blistering and scar formation. Finally, reference was made to Leduc's method of ionic medication which has put kataphoresis on a new basis. The first essential of the treatment to be successful was to find out whether the substance to be introduced was an an-ion or a kat-ion. Of course, there were limitations to the applicability of this form of treatment. Ether and chloroform were not capable of introduction into the body in this way because they were insoluble in water without dissociation. Also some drugs owed their action to their concentration, and such drugs introduced diluted, as ions necessarily were, tended to lose their medicinal properties. This mode of treatment was being gradually developed and according to the lecturer it had great possibilities. In rodent ulcer good results had been obtained by using ions of zinc. For lupus ions of zinc, aniline, and fuchsin had been tried; copper and magnesium had also been made use of in the ionic method of treating warts and other superficial affections. A vote of thanks to the lecturer was carried on the proposition of the President of the Faculty of Physicians and Surgeons, Glasgow, seconded by Dr. Dawson F. D. Turner of Edinburgh.

The Tragedy at Montrose Asylum.

At the monthly meeting of the directors of the Montrose Asylum Dr. J. G. Havelock, physician-superintendent, submitted a statement regarding the tragedy which had occurred the previous week. He had assisted at a post-mortem examination on the man who was killed and it was found that the brain, the heart, and the kidneys were extensively diseased. The opinion was that the injuries received were insufficient to cause death in a healthy person. It was decided to institute an inquiry into the fatal assault and to ascertain if it might not be possible to make arrangements which would increase precautions during the night time. Once in two hours seemed to be rather long between the visits of attendants.

The Proposed Foresters' Convalescent Home for Scotland.

At the thirty-first annual conference of the Scottish Foresters' Federation which is being held in Aberdeen a report was submitted on the proposed establishment of a Foresters' convalescent home for Scotland. The report stated that the sum of £1989 was in hand for the purpose and members were urged to persevere in the work of raising funds. After a lengthy discussion the committee was given powers to add to its numbers and to look out for a suitable house and grounds for the purposes of a convalescent home, the committee to report to the next conference.

The New Water-supply for Aberdeen.

At the last monthly meeting of the Aberdeen town council it was resolved that Sir A. R. Binnie, M.Inst.C.E., and Mr. George R. Strachan, M.Inst.C.E., should, together with Dr. A. C. Houston, director of water examinations to the Metropolitan Water Board, be requested to report upon the subject of new or additional water-supply for the city.

Elgin Nursing Association.

At the half-yearly meeting of the above association it was reported that 246 cases had been dealt with during the past half year, as against 279 in the corresponding period of the previous year. The two nurses had paid 3681 visits. Reference was made to the donation of £500 which had been given to the association by Mrs. Woodhead, Hyde, a native of Elgin. The same lady has also presented a nursing home and some minor gifts. The association has a credit balance of £239.

June 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University Education in Ireland.

THIS matter, which is to a large extent medical, still occupies attention in Ireland. The *Irish Times* having copied a statement which had appeared in the *Times* to the effect that the Government had definitely abandoned Mr. Bryce's scheme as regards the University of Dublin, the *Freeman's Journal* on the same day published a long list of lay Roman Catholics who were in favour of what they thought might be the Government proposal—i.e., that one Roman Catholic college would be established in connexion with the University of Dublin, to which its students could apply for degrees. You have had a certain amount of correspondence on the subject in your columns but I have seen no reference to one matter which cannot be denied. The Roman Catholic bishops and clergy, as far as possible, close all Government and Poor-law appointments in Ireland against medical men holding the University of Dublin degrees. It is deplorable that the public health of the country should thus be endangered by its unfortunate religious dissensions.

Apothecaries' Hall of Ireland.

At a general meeting of the Members of the Apothecaries' Company, held at 40, Mary-street, Dublin, on June 7th, Mr. G. R. Seymour Stritch being in the chair, it was proposed by Dr. Montgomery, seconded by Dr. T. D. Finucane, and passed unanimously—

That the best thanks of the Company are hereby tendered to Colonel Adye-Curran, M.D., F.R.C.S., for his untiring and successful efforts on behalf of this Hall in the General Medical Council.

The Irish Medical Association.

The annual general meeting of the Irish Medical Association was held this year, on June 5th, in the ballroom of the Northern Counties Hotel, Portrush, Mr. J. S. McArdle of Dublin, the President, being in the chair. From the report presented and adopted it appears that a sum of £297 17*s.* 2*d.* is still due to the law agent for law costs. The income received, with the balance in hand at the close of last year, was £901 18*s.* 6*d.*, and the expenditure was £838 17*s.* 11*d.*, leaving a balance of £63 0*s.* 7*d.* There is a balance to the guarantee fund of £60 16*s.* 3*d.* At the close of the year 126 members were in arrears for 1906, amounting to £130 14*s.* 6*d.* The President in his address, after thanking the members for re-electing him, spoke encouragingly of the work of the association, and thanked the Local Government Board for the manner in which it had received them at all times. He said that there were men in different districts in Ireland who belittled the association, although they belonged to it—a line which he denounced as cowardly, if nothing worse. He had nothing to say against the British Medical Association but why put it up, as it was being put up by members of that Association, as a rival to their own? Having impressed the lesson of unity the President said that every opinion which had been expressed by commissioners of late tended to demonstrate that there should be segregation of the profession in Ireland. Finally, he urged that they should in the future lend their strength entirely towards first securing proper scales of salaries all over the country, which could only be done by individual effort which he strongly recommended. Mr. J. S. McArdle was re-elected President of the association for the coming year; Dr. L. Kidd, Dr. W. MacSweeny, Dr. F. W. Kidd, and Dr. R. J. Kinkead, Vice-Presidents; Dr. J. Donnelly honorary secretary; and Dr. W. J. Thompson treasurer. In the evening the members dined together at the Northern Counties Hotel, the President being in the chair. On the next day there was an excursion to the Giants' Causeway.

Cerebro-spinal Meningitis in Belfast.

During the week ending June 1st 22 cases of cerebro-spinal fever were notified, the same number as in the previous week. Since May 30th 17 cases were notified, as against 20

during the previous week, bringing the total up to 482; and during the week ending June 1st 14 deaths were reported, a decrease of six, as compared with the previous week. The total number of deaths since the beginning of the outbreak was 350. The cases are now milder and it is hoped by the medical officer of health that the worst of the epidemic is perhaps over. Of the 81 patients in Purdysburn Fever Hospital on June 6th 41 were cases of cerebro-spinal meningitis.

Royal Sanitary Institute Conference.

A conference on sanitation and public health has been arranged by the Royal Sanitary Institute to be held in Trinity College, Dublin, from June 25th to 29th next.

June 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Influence of the Emotions in Hæmoptysis of Tuberculous Origin.

AT the Society of Internes of the Paris Hospitals on May 23rd M. Boisseau reported the case of a young girl suffering from tuberculosis who had at the beginning of the disease two "vicarious hæmoptyses" (*supplémentaires de règles*) and five hæmoptyses following emotional disturbances; they always followed immediately on the entrance into the patient's room of a certain friend of the family with whom she was violently in love and whose visits invariably caused her great agitation. During the attacks of hæmoptysis she had some congestive râles and a slight evening rise of temperature, but these symptoms only lasted a few days. The attacks exactly corresponded with those described as hysterical hæmoptyses. They were, however, undoubtedly of tuberculous origin, for later Koch's bacillus was found in the sputum and the patient died from acute double tuberculous broncho-pneumonia. Although she was a very emotional girl she showed no other symptom of hysteria. This case tends to prove that so-called hysterical hæmoptyses have no really distinctive features and that they cannot be diagnosed from some tuberculous hæmoptyses; that only the combined presence of hysterical stigmata and absence of auscultatory signs of tuberculosis can justify the diagnosis of hysteria. And so on one hand the latency and frequent early arrest of tuberculosis, and on the other the association of this disease with a neurosis, give good grounds for thinking that most of the cases described as "hysterical hæmoptyses" are really of tuberculous origin occurring in hysterical subjects in whom the disease had been arrested.

Optical Treatment of Strabismus.

At the Academy of Medicine on May 28th M. de Lapersonne reviewed the optical treatment of strabismus. He does not advise operative treatment before ten or 12 years of age; the use of correcting glasses, the use of atropine drops, and the intermittent wearing of a bandage on the sound eye are the essential points in the treatment. Later recourse may be had to operative procedures, but it is necessary to supplement them by optical exercises with the aid of that very ingenious instrument called the diploscope invented by Dr. Remy. With the intelligent employment of the diploscope the cure of strabismus can be guaranteed and often in quite a few sittings.

Cardio-vascular Affections in Hereditary Syphilis.

At the same meeting of the Academy of Medicine M. Landouzy and M. Loederich gave an interesting account of some cardio-vascular lesions connected with hereditary syphilis. The case in question was that of a child, born at full term but who died within five weeks from broncho-pneumonia. A post-mortem examination showed that there were serious cardiac malformations, but these, despite their serious nature, incomplete interauricular septum, imperfect development of the aorta, and hypertrophy of the right ventricle, had given no signs during life, either physical or functional. The kidneys and the suprarenal bodies also showed the lesions associated with hereditary syphilis. There was no reason to suppose that they were due to either alcoholism or tuberculosis in the parents.

Vaccination in Algeria.

Vaccination has been made compulsory in Algeria during the first year of life and revaccination in the course of the eleventh and twenty-first years. Vaccination is also obligatory upon any person wishing to reside in the country. The vaccination organisation for each province is under the control of the prefect who nominates the medical men, the midwives, and the other officials who have to do with the vaccination service. Those who disobey the regulations render themselves liable to penalty.

Tramcar Tickets and Infectious Diseases.

Dr. Busquet, a medical man of Bordeaux, has recently been making some inquiries into the question as to whether infection could be conveyed by the tickets handed to passengers by tramcar conductors. He took great care to avoid any contamination of the tickets after he received them. Having provided himself with sundry double envelopes made of "bank" paper (*papier Joseph*) he exposed them for one hour to a heat of 180° C. Then he started on a round of journeys by the different tramways in Bordeaux. When he was given a ticket he tore off the corner by which he had held it and dropped the remainder into one of his sterilised envelopes. In all he received ten tickets from five conductors, all of which were defiled with saliva. Cultures were then made from the tickets, which showed the presence of numerous germs such as streptococci, staphylococci, pneumococci, and the pseudo-bacillus of Loeffler. White mice inoculated with some of the culture bouillon were gravely affected, and out of ten so treated eight died. Five white rats which were inoculated all died.

Monument to Théophile Roussel.

On June 5th the monument erected to the memory of Théophile Roussel was unveiled; the ceremony was performed by M. Fallières, President of the Republic. As is well known, Théophile Roussel devoted his whole life to improving the lot of foundling children (*assistés*) and protecting their interests. Speeches were made by the Minister of Labour, M. Viviani, who drew a picture of the beauty of Roussel's life; by the Prefect of the Seine, M. de Selves; and others. The proceedings were brought to a close by the distribution of prizes to the foundlings.

June 10th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Resignation of Professor Chrobak.

AT the end of the current summer term Professor Chrobak, the famous gynæcologist, will resign his post as ordinary professor and director of the gynæcological clinic in the University of Vienna. In his case the age limit of 70 years would not take effect for three years yet, but the state of his health has compelled him to relinquish the post occupied by him for many years, and his decision has been received with the greatest sorrow by his numerous pupils and patients. Professor Chrobak is famous for his correct and exact diagnoses, his conservative methods of treatment, and his great success as an operator. As a teacher he won the esteem and attachment of all his students. His successor will presumably be Professor von Rosthorn, at present director of the gynæcological clinic in the University of Heidelberg. The new professor will not have to teach in the present Vienna clinic, which is too small for the requirements of a modern surgeon, but will enjoy the advantage of being the first clinical teacher to take over the new clinic at present in course of erection, where an up-to-date institution awaits him and where every requisite for modern scientific research will be at his disposal.

Medical Defence and the Insurance of Medical Men against Accident or Injury.

The serious risks which a practitioner, especially a surgeon, incurs when his treatment does not prove satisfactory to the patient have led the Aerztekammer (Medical Council) to take a very praiseworthy step for the protection of the members of the profession. A committee has been appointed by the Aerztekammer for the purpose of entering into negotiations with several large insurance companies to obtain favourable rates for the medical men. The companies have consented to grant insurances against charges of malpractice and will provide counsel for the defence in all cases of this kind besides fixing an amount sufficient to cover all claims in each case; full particulars must in every instance be notified to the Aerztekammer, which will instruct counsel. The

premium will not be high, the sum of £1 yearly being fixed by the companies entitling the medical practitioner to a sum of £4000 as a maximum in case of a claim for damages. Apart from this insurance, the Aerztekammer has secured for the local members of the profession personal insurance against accidents of all kinds, to include also attacks of infectious illness and syphilis if these diseases are contracted in the course of professional duty. This will be a decided improvement over the conditions in force hitherto, which were so unfavourable for the practitioner that he was not able to obtain any compensation if he, for instance, in treating a patient suffering from typhoid fever or diphtheria, fell himself a victim to one of these maladies. As a rule the compensation, which will be paid now to the insured practitioners, will amount to not less than £1 daily.

Molluscum Contagiosum.

At a recent meeting of the Dermatological Society Dr. Nobl showed a woman, aged 30 years, suffering from an unusual affection of the skin. On the left side of her chin there was a prominent, hard, flat tumour of the size of a shilling, round like a coin, imbedded in the skin, which at the site of attachment appeared pearl-grey. In the centre there was a scab, somewhat depressed, but fixed to the tumour. The tumour appeared for the first time eight weeks ago and grew quickly in spite of the application of several kinds of ointment. The differential diagnosis between a primary syphilitic sore, an epithelioma, or a fibrous nævus and molluscum contagiosum, as the disease really was, depended on the absence of reaction in the neighbourhood and the extreme hardness of the mass. The rapidity of growth allowed the inference that the morbific agent was of exceptional virulence. In such cases transplantation of the molluscum was possible and has been successfully tried by Dr. Nobl himself. The diagnosis of the disease during the pre-histological epoch was often very difficult, as inveterate acne might simulate it very closely. The only treatment for molluscum was radical excision, which was a very simple procedure.

An Interesting Combination of Pathological Conditions.

In a subject dissected by Dr. Sternberg, the pathologist to the Brünner General Hospital, there was found associated in one patient a series of conditions of which each one was considered to be a rarity. First of all, there was an aneurysm of the descending thoracic aorta which had completely eroded two ribs on the left side and the left half of the vertebral column between the third and the seventh vertebræ, so that a soft tumour, palpable under the skin of the back, resulted. This tumour had been several times diagnosed as a cold abscess and had once narrowly escaped surgical treatment. The cause of death, however, had been a dissecting aneurysm of the ascending part of the aorta, which had permitted blood to ooze between the layers of the aortic wall into the pericardium, thus compressing the heart gradually. The aorta in this part showed signs of another rupture of the sac, which undoubtedly had taken place a long time ago and had healed up by scar tissue. After the scars had formed they became thinned until at last the dissecting aneurysm was established. Chronic aortitis was present throughout the whole length of the vessel, with many patches of calcified tissue. On the left foot the characteristic sore of perforating ulcer of the foot was found and tabetic changes of the spinal medulla were distinctly marked. Clinical manifestations during the life of the man were in accordance with the conditions found at the necropsy. Syphilitic stigmata were present and notwithstanding the denials of the patient syphilis was undoubtedly the basis of all these changes.

Report of the Vienna Polyclinic.

The thirty-fifth yearly report of the institution known as the Polyclinic in Vienna has just been published and shows that a large amount of work has been done during the twelve months in question. In 1872 the number of out-patients was 11,952, last year it went up to 69,527, and during the 35 years 1,500,000 new out-patients were treated. In 1887, when the in-patient department was founded, the number of in-patients was 80. Last year the institution had 150 beds and 2247 in-patients were admitted, 671 of them being children under 14 years. These patients included 119 cases of diphtheria admitted to the isolation ward; 112 of them received injections of serum but the remaining seven arrived in a dying condition beyond medical aid. The mortality of diphtheria treated by serum injections has fallen to 3·3 per cent. of all cases injected. 1070 major operations were performed with a mortality of 4 per cent. 115 mastoid operations were performed in the otological department, with one death (a case of tuberculous otitis with meningitic complications). A new laboratory for x ray work has been provided. The institution is one of the very few in this city the income of which is derived from charitable contributions or bequests. For the first time since its erection the expenditure exceeds the income, so that a deficit of about £3000 remains. The polyclinic comprises, as its name states, departments for all branches of medicine and the heads of departments are either extraordinary professors or *privat-docenten*. It is a rule that only first-class men are appointed to these posts, as the institute is in close connexion with the university and the lectures delivered in it are well attended by graduates from all countries. It stands even higher in the public estimation than the general hospital, for with the exception of the heads of departments the staff of the polyclinic are mostly engaged in general practice and the hours of consultation at the polyclinic are more convenient for the public than at the general hospital.

June 10th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Thermal Springs of Turkey.

THE authorities last year decided to gather all the necessary data and information concerning the thermal springs of the Ottoman Empire, with the view of publishing their therapeutic properties, composition, mode of access, and the like. The question was also considered of opening comfortable hotels at the watering-places, of constructing new roads of communication, and of rendering, in other ways, the thermal springs attractive to the general public. This rather extensive scheme is, however, still unrealised, although plans for putting it into operation were published only recently. As usual in Turkey want of funds is the stumbling-block. Yet the accomplishment of the above plans could, in a comparatively short time, be a fruitful source of revenue to the Ottoman State treasury, the more so as many of the Turkish thermal springs, especially those scattered throughout Asia Minor, are either near the main railway lines or situated in proximity to the sea. The vilayet of Hudavendighiar, a neighbouring province to the metropolis, is the most remarkable and the best adapted for the exploitation of its hot springs. The town of Brusa, for instance, the ancient capital of the Ottoman Empire, has long been famous for its hot iron and sulphur springs which have a temperature ranging from 112° to 178° F. Every year in the spring months it attracts numerous people and many tourists from Europe. Another much frequented thermal place is Courz-les-Bains-Yalvoa. Patients suffering from rheumatism, from diseases of the bladder, from some forms of paralysis, and from skin diseases are said greatly to be benefited by these baths. They are under skilful medical supervision and of recent years several new establishments have been added and the old Roman baths have been improved. Yalvoa is also visited by people suffering from different nervous complaints. It is within easy reach of Constantinople, commands a magnificent view over the Sea of Marmora, and has pure, exhilarating air. It is a real country place, with the advantages of a bathing resort equipped more or less in a modern style.

Mortality Returns.

Last week 238 people died in Constantinople, of whom one died from scarlet fever, two from small-pox, five from enteric fever, 52 from tuberculosis, and three from cerebro-spinal meningitis.

June 7th.

CARDIFF INFIRMARY.—Up to the present £9267 have been received towards the £30,000 required by the committee of the Cardiff Infirmary for the purpose of erecting a new wing and making other required additions to the institution.

Obituary.

MAXWELL TYLDEN MASTERS, M.D. ST. AND., F.R.S.

THE death is announced of Dr. Maxwell Masters as occurring at Ealing on May 30th. Born at Canterbury on April 15th, 1833, he was the youngest son of parents of unusual ability who were much in advance of their time. Having entered as a medical student at King's College, London, he in due course passed the examinations of the Royal College of Surgeons of England and of the Society of Apothecaries of London and went to Oxford as subcurator of the Fielding Herbarium under Dr. Daubeny. In 1856 he commenced general practice at Peckham in partnership with Dr. Stokoe; this he relinquished after a few years to devote his whole time to scientific botany. In 1866 he became part editor of the *Gardeners' Chronicle* and sole editor from 1882 till the time of his death, thus having been connected with that journal for 41 years. Here he found work thoroughly congenial to his taste and was the animating personality in its fortunes, gathering around him as contributors all the leading men of science and horticulture in all countries. A man of wide culture and attractive personality, as became the successor of Dr. Lindley, one of his earliest works of importance was a volume on "Vegetable Teratology" issued in 1869 by the Ray Society; in 1870 he published a revised edition of Henfrey's "Elementary Botany." His scientific monographs are too numerous to mention, for he was untiring in his devotion to the science of his choice. He was lecturer in botany at St. George's Hospital from 1855 to 1868 and for several years acted as examiner in botany in the University of London and for the Society of Apothecaries. He was a Fellow of the Royal and Linnæan Societies, was a Corresponding Member of the Institute of France, and an Officer of the Order of Leopold, and was in one way or another associated with the leading horticultural and botanical societies in Europe and America.

DAVID MACBETH MOIR, M.D. EDIN.,

MAJOR, INDIAN MEDICAL SERVICE.

Major David Macbeth Moir, who died in Calcutta on June 7th, represented the third generation of a medical family. His grandfather, Dr. David Macbeth Moir, practised in Musselburgh where a statue has been erected to his memory. He acquired a great reputation by his literary work, much of which appeared under the author's pseudonym of "Delta." Major Moir was born in India in 1860, being the eldest of the family of the late Dr. Moir, who, after returning to Scotland, practised in St. Andrews. He studied medicine at the University of Edinburgh, where he graduated as M.B. in 1885. After becoming qualified he was made demonstrator of anatomy in the University of Edinburgh and held residential appointments in the Royal Infirmary, Chalmers' Hospital, Royal Hospital for Sick Children, and Royal Maternity Hospital, Edinburgh. A description of a case of avulsion of the fingers which appeared in THE LANCET of March 3rd, 1888, was written by him while at Chalmers' Hospital. In 1888 he went to India as surgeon-captain in the Indian Medical Service, having gained during his course of instruction at Netley Hospital a gold and a bronze medal and having passed second on the list of candidates for the army. In India he served with the Chin-Lushai expeditionary force in 1889–90 and was awarded a medal with clasp. He afterwards held various civil appointments, including one at the Presidency General Hospital, Calcutta, where he acted for the medical superintendent when the latter was on furlough. Reports of surgical operations performed by him in this hospital appeared in THE LANCET of Jan. 9th and April 24th, 1897. In 1898 he also published in our columns two articles giving a summary of 193 cases of gunshot wounds treated by him at Rawal Pindi. In 1899 he took home leave for a year, during which he graduated as M.D. at his University, receiving high commendation for his thesis. In March, 1900, he was promoted to the rank of major. After his return to India he continued to hold civil appointments and was eventually made professor of surgical and descriptive anatomy in the Medical College, Calcutta, and became *ex-officio* surgeon to the hospital of the college. He therefore had every prospect of a most promising career, which has been abruptly terminated by his sudden and untimely death.

Medical News.

UNIVERSITY OF CAMBRIDGE.—By the death of Professor Alfred Newton, F.R.S., Professor of Zoology and Comparative Anatomy since 1866, the University loses an accomplished naturalist who in the domain of ornithology was acknowledged to be of the highest authority.—Professor G. H. F. Nuttall announces that the Secretary of State for the Colonies is prepared to make a grant of £100 a year for two years for the purpose of establishing a research studentship in medical entomology in the University. Applications are to be sent to Professor Nuttall by June 17th.—A Balfour studentship in Animal Morphology, of the value of £200 a year for three years, will be vacant at Michaelmas. Applications are to be sent to the Registrary, Cambridge, by Oct. 1st.—Dr. G. S. Graham-Smith, Professor Nuttall, and Professor G. Sims Woodhead are appointed delegates to the International Congress of Hygiene and Demography to be held in Berlin in September next.—Dr. L. Humphry has been nominated as assessor to the Regius Professor of Physic for the ensuing academical year.—At a Congregation on June 6th the following degrees were conferred:—

M.D.—W. E. Moore Ede and G. R. Rickett, King's; J. Wharton, St. John's; E. H. Harrisson and B. Hudson, Clare; C. R. Howard, Pembroke; and S. L. O. Young, Christ's.
M.B. and B.C.—H. J. Clarke and G. G. Packe, Trinity; and L. Nicholls, Downing.
M.B.—W. H. R. Sutton, Downing.
B.C.—A. T. Densham, St. John's; and G. F. Greenwood, Sidney Sussex.

THE BELGRAVE HOSPITAL FOR CHILDREN.—A summer fair and Spanish market was opened at Prince's Skating Rink, Knightsbridge, on June 10th in aid of the Belgrave Hospital for Children, Clapham-road, London, S.W.

LITERARY INTELLIGENCE.—Dr. J. S. Milne has completed a long monograph on "Surgical Instruments in Greek and Roman Times," which will be issued from the Oxford University Press within a few days. The volume embodies investigations extending over several years and is fully illustrated. The author points out that many interesting operations described in detail in ancient authors are rendered obscure or quite unintelligible from lack of knowledge of the instruments employed, while no systematic attempt to reconstruct the different instruments used by the ancients has hitherto been made, this department of archæology having received scant attention.

UNIVERSITY OF OXFORD.—The following have been appointed public examiners in the branches of natural science indicated: W. N. Stocker, M.A., Fellow of Brasenose College, in Physics; N. V. Sedgwick, M.A., Fellow of Lincoln College, in Chemistry; W. Ramsden, D.M., Fellow of Pembroke College, in Physiology; and A. Dendy, D.Sc. Lond., in Zoology.—The Earl of Rosebery, Hon. D.C.L., Hon. Student of Christ Church, a Rhodes Trustee, unveiled a tablet to commemorate the foundation of the Rhodes scholarships, in the Examination Schools on June 12th.—The Herbert Spencer lecture for 1907 was delivered on June 5th in the Sheldonian Theatre by Francis Galton, Hon. D.C.L., M.A., Hon. Sc.D. Cambridge, F.R.S., Hon. Fellow of Trinity College, Cambridge, the title of the lecture being "Probability the Foundation of Eugenics."—The Margaret Ogilvie Reader in Ophthalmology announces his fourth annual summer course in ophthalmology, to be held from July 15th to 27th. The course (fee £5 5*s*.), which is not confined to members of the University, will consist of lectures and practical instruction and demonstrations by the Reader, assisted by a number of distinguished English and foreign ophthalmologists and others.—The electors give notice that they intend, if possible, to proceed to the election of a professor of pathology early in the month of July. Candidates are requested to send their applications to the Registrar of the University on or before July 1st. No testimonials are to be submitted, but candidates should send in, with their names, ten copies of a statement of their qualifications, accompanied by references or any other evidence which they may desire to offer. The professor of pathology is bound by statute to lecture and to give instruction in pathology. He also has charge of the pathological laboratory and of the pathological collections belonging to the University. He is not allowed to engage in private medical or surgical practice. The University guarantees an income

of £700 per annum from the University chest. This may or may not be augmented hereafter by a Fellowship in a College.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this association will be held at the Trocadéro, Piccadilly-circus, London, W., on Thursday, June 27th, at 6.30 P.M. At 7.30 the members and their friends will dine together, and as the dinner this year is to be of an informal nature evening dress will not be necessary. There will be a musical entertainment, and the honorary secretary will be glad to hear from any member willing to assist, either with vocal or instrumental music. The price of the dinner will be 7s. 6d., exclusive of wine. Members may introduce friends and all Poor-law medical officers are cordially invited. Those desiring to be present are requested to communicate with the honorary secretary, Dr. M. Greenwood, at 144, Stoke Newington, London, N.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.—This society held its annual meeting on June 11th, which was followed by a banquet in the evening at the Holborn Restaurant, London, W.C., under the chairmanship of Mr. Charles L. Rothera, coroner for the city of Nottingham, the President of the society. The company was very hospitably entertained and an excellent programme of vocal music was rendered between the speeches by the Princes' Quartette. After the loyal toasts had been given from the chair Mr. I. Bradley (coroner for Birmingham) proposed "Imperial and Local Government," to which Mr. J. H. Yoxall, M.P., responded. Mr. Alex. Macmorran, K.C., next gave the toast of "The Coroners' Society," and pointed out the great help which it afforded to its members in advising them on the many matters of difficulty arising in connexion with their ancient office. He showed that there was a real need for this assistance, as the office was not statutory, but that its powers could only be defined from the Common Law existing before Coke's day. The decisions embodied in the annual reports of the society were forming a body of information that could not be found in the text-books and were of the utmost value in administering coroners' law. Of late years the public respect for the coroner's office had increased with its responsibilities largely through the society's influence. In reply, the chairman also testified to the extreme value of the society's reports and alluded to the increased interest shown in its discussions by its members. It had frequently to defend its members from the attempts of county councils to encroach on their functions. The society might and ought to exert a powerful influence on legislation in such matters as the registration of deaths and the control of midwives. Dr. F. J. Waldo, coroner for the City of London, proposed "The Guests," for whom his honour Judge Rentoul and Mr. A. J. Davies, Permanent Secretary to the Welsh Department of the Board of Education, replied. Mr. Henry White proposed "The Past President and Present Officers," expressing the great debt of gratitude that the society owed to its very energetic secretary Mr. W. Schröder. Mr. G. P. Wyatt, coroner for South London, and Mr. Schröder, deputy coroner for Central London, replied. The latter gentleman said that reform on many subjects—e.g., death certification—was essential; the Lord Chancellor was carefully considering the proposals put forward by the London County Council to amend the law governing coroners, which he hoped would receive vigorous support; the suggestions were not new, as a medical coroner so far back as 1862 had employed special pathologists to perform necropsies. Mr. Schröder expressed his thanks to Mr. Benson for assisting him in preparing the annual report of the society.

THE JUBILEE INSTITUTE FOR NURSES: QUEEN ALEXANDRA'S COMMITTEE.—Her Majesty the Queen, who takes a deep personal interest in the work of her nurses, has nominated Adeline Duchess of Bedford in succession to the late Countess Cadogan as president of her committee charged with the financial welfare of Queen Victoria's Jubilee Institute for Nurses. Membership of Queen Alexandra's committee in 1906 was limited to 25 ladies who undertook to be responsible for raising £100 each on behalf of the institute. It was, however, felt too much to expect them to repeat such a task annually and a decision was arrived at and sanctioned by the Queen enlarging the committee to one comprising 200 members who would collect £10 each yearly whereby £2000 would be guaranteed annually. This larger committee was in course of formation when progress was stayed by the death of Lady Cadogan. The recent nomination will, it is hoped, shortly lead to the completion of the list of membership which in due course will be submitted to Her Majesty for approval. The work of the Queen's nurses who tend the sick poor in their own homes without distinction of creed becomes increasingly known every year. Support is always willingly given to district nursing associations when the nurses are daily seen in the active pursuit of their duties. Before a district can secure the skilled services of a Queen's nurse she has already cost the Central Institute from £30 to £40 for training in district or midwifery work. In addition, a large annual expenditure is necessary in the periodical inspection of each nurse and her work, which is regarded by the local committees employing Queen's nurses as a most valuable feature in the institute's work. The conduct of the institute in Scotland is under the control of a special Scottish council, aided by a large annual grant from the Central Council, which provides entirely for the administration of the work in England, Wales, and Ireland. At the beginning of the present year 1450 nurses were on the Queen's roll. These, with Queen's probationers, village nurses, and midwives bring the total to 2190 nurses who come under the supervision of the institute. The administrative work also involves the calling of important annual conferences on matters concerning district nursing, at which there are often from 200 to 300 persons present representing district nursing associations from all parts of the country. A large expenditure is necessary to maintain the work, and when it is realised that annually a deficiency of £2000 has to be met in keeping pace with the growth of the work financial support it is hoped will be given willingly. The honorary treasurer of Queen Alexandra's Committee, Mr. Harold Boulton, M.V.O., and the secretary, Mr. Reginald Garratt, will gladly reply to any inquiry as to the work on applications being addressed to them at the offices of the institute, 120, Victoria-street, London, S.W.

COMPLIMENTARY DINNER TO PRINCIPAL DONALD MACALISTER.—On June 4th a complimentary dinner was given to Dr. Donald MacAlister in the Combination Room of St. John's College, Cambridge, by the resident medical graduates of the University. The Regius Professor of Physic occupied the chair and among those present were: Sir Hector Cameron, Sir Robert Ball, the President of Queen's College, Cambridge; the following professors: J. N. Langley, J. B. Bradbury, J. J. Thomson, Howard Marsh, G. Sims Woodhead, G. H F. Nuttall, and Brodie; Dr. W. H. Gaskell, Mr. Adam Sedgwick, Mr. A. E. Shipley, Mr. F. G. Hopkins, Dr. L. Humphry, Dr. L. E. Shore, and others. Professor Allbutt, in proposing the guest of the evening, pointed out that the University was losing a great pioneer whom it could ill spare, and described how the Scotch usually took the cream off the English bowl, though in securing Dr. MacAlister as a Scottish principal they were getting some of their own back. After paying a high compliment to the poetry, romance, and literature of Scotland, he went on to dwell on the celerity of business, the financial progress, and the general efficiency of the General Medical Council since Dr. MacAlister had become the President of that body, adding that he was glad to think that the principal of the University of Glasgow would still continue to represent Cambridge on that Council, and concluding with reference to Lord Kelvin and the late Sir Richard Jebb, illustrious Cambridge Glaswegians. Dr. MacAlister, in reply, said that he had spent 26 years in Cambridge in the medical school and University. He remembered how he had been hampered by being Senior Wrangler and how he had had great difficulty in living down the part by ignoring the claims of mathematicians and cultivating the realms of science and medicine. In 1877, when he joined Cambridge as a medical student, there were only 40 "medicals" in the year, and only 100 students of medicine in the whole University. Last October 122 medical undergraduates matriculated and the total was 420. The number had increased on account of the modern equipment, the high standard required, and the enthusiasm and stimulation of the teachers. He touched lightly on his work on the General Medical Council and as chairman of the special board for medicine in Cambridge. His only difficulty when he had 24 hours in which to decide whether or not he should accept the position of principal of the University of Glasgow was the resignation of the chair of the General Medical Council, which he thought that his acceptance of the post offered

to him would entail. His colleagues suggested that he should hold both and so solved that difficulty for him. Professor Marsh, in a witty speech, proposed "The Visitors," which was replied to briefly by Sir Hector Cameron for Glasgow who pointed out how glad they all were to have Dr. MacAlister as their principal, and that this was an experiment as previous principals had all been divines. Sir Robert Ball replied for the Cambridge visitors and spoke of the well-known facility which Dr. MacAlister possessed for the assimilation of foreign languages. Professor Bradbury, Professor Woodhead, and Dr. Shore also spoke briefly.

THE COAL SMOKE ABATEMENT SOCIETY.—The report of this society for the year 1906 states that evidence is not wanting to show that the influence of the society is now far greater than has been the case during any previous period of its existence and that many manufacturers now regard the society as a friend rather than an enemy. Amongst the authorities of which the society has most cause to complain are mentioned the West Ham corporation and the Chiswick urban district council. The society has also reported a number of nuisances in connexion with Government factories but it appears that while private manufacturers can be compelled to adopt precautions for preventing the emission of black smoke the properity of the Crown is for this purpose exempt from the operation of the Public Health Acts. The promoters of several electric power and supply Bills in Parliament have asked to be exempted from proceedings for nuisances, including nuisances caused by the emission of black smoke, but the society is confident that Parliament will hesitate to clothe the proprietors of electric generating stations with such exceptional powers, especially as it is stated that certain of them have been among the worst offenders in the metropolis. Evidence shows that the emission of black smoke from factory chimneys is very largely the result of inefficient stoking. Consequently the society has established courses of instruction in stoking at the Borough Polytechnic Institute and 90 stokers availed themselves of the opportunity to perfect themselves in their work. During the year 1906 1423 cases of smoke pollution were reported by the society's inspector and 1246 complaints were forwarded by the society to local authorities. During the year the society tested 47 grates and 32 gas stoves and the reports of the tests were published in THE LANCET. Finally, the society has made tests of "Coalite," a new patented fuel which is the invention of Mr. Thomas Parker, C.E., M.I.C.E. It is claimed to be ordinary bituminous coal treated in such a manner that the smoke-producing elements are completely extracted from it without impairing its value as a fuel. The results of these tests will be published shortly. The committee appeals for subscriptions to enable it to continue its useful work without the constant strain involved in endeavouring to meet the imperative expenditure with an income of less than £300 per annum. Subscriptions may be of any amount from 5*s.* per annum and should be forwarded to the secretary, Mr. Lawrence W. Chubb, 25, Victoria-street, Westminster, S.W.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE.—The annual dinner of the friends of this hospital, comprising the past and present medical staffs (honorary and resident), the post-graduate students, and the lay supporters of the charity, took place at the Trocadero Restaurant on June 12th, under the chairmanship of Mr. E. Lloyd-Williams, dental surgeon to the hospital. The dinner was throughout marked with the enthusiasm born of success. After the chairman had given the loyal toasts Dr. J. Barry Ball proposed in an amusing speech "The Imperial Forces." This having been responded to by Surgeon-General W. J. Charlton, A.M.S., the Chairman proposed the toast of the evening, "The West London Hospital," in the course of which he referred sympathetically to the recent severe illness of the Duke of Abercorn, the Chairman of the Board, but was able to announce that the distinguished invalid was progressing favourably. The toast was replied to by Mr. G. F. Marshall for the Board, by Mr. C. R. B. Keetley for the staff, and by Mr. E. M. Niall for the residents. Mr. Keetley was humorous and breezy as usual and protested against the indebtedness of the hospital being regarded in any way as a bogey, inasmuch as in his experience the hospital progressed under the stress of poverty and its accompanying strain and efforts. Lieutenant-Colonel A. W. Alcock, I.M.S., then proposed "The Post-Graduate College," from whose teachings he said a large number of his brother officers had derived the greatest possible benefit and he paid the management of the college high compliments on both the manner and the matter of the instruction given. To this toast the Dean of the College, Mr. L. A. Bidwell, replied with a statement showing the progressive prosperity of the institution and its cosmopolitan character, adding that the rivalry of other and newer post-graduate schools, so far from damaging the West London Post-Graduate College, appeared to stimulate men to join the older establishment. The toast of "The Visitors" was proposed by Dr. Donald W. C. Hood and responded to by Sir Richard Douglas Powell, Bart. The Chairman's health was then proposed by Mr. Stephen Paget, when a few words from Mr. Lloyd-Williams brought the proceedings to a close. Between the speeches Mr. Wilfred Pepper and Mr. Vernon Taylor gave a well-chosen selection of ballads.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Butter and Margarine Bill.

THE Butter and Margarine Bill has passed through Committee and has been reported to the House of Commons with amendments.

Teaching Hygiene in Schools.

A petition signed by nearly 200 Members of Parliament has been presented to Mr. MCKENNA, President of the Board of Education, supporting the appeal of medical practitioners that instruction in hygiene and temperance in public elementary schools should be specifically introduced into the curriculum of the code. Mr. MCKENNA on June 6th received a deputation headed by Lord STRATHCONA which urged this matter on his attention and also the establishment of a medical bureau in the Education Department. The right honourable gentleman, in reply, expressed sympathy with the views of the deputation. He pointed out, however, that until the Bill which contained provisions dealing with the medical inspection of school children had become law he could not declare the settled policy of the Board of Education on the subject.

Deaths from Tetanus in the Punjab.

The return moved for by Sir WILLIAM COLLINS of papers containing the results of an inquiry into the origin of certain deaths from tetanus in the Punjab consequent on the employment of Mr. Haffkine's prophylactic against plague has been presented to Parliament.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 5TH.

The Wincanton Hospital District.

Mr. J. W. H. THOMPSON asked the President of the Local Government Board whether an order of the Local Government Board had been made, after inquiry held, whereby the rural district of Wincanton, Somerset, had been constituted a hospital district and an isolation hospital established; whether there were any other purely rural districts in which such a hospital had been permanently provided; whether he was aware that the almost unanimous feeling in the district was opposed to the establishment of a permanent hospital; and whether, in view of the evidence in opposition offered at the inquiry, he was prepared to reconsider this order.—Mr. BURNS answered: An appeal was made to the Local Government Board against an order of the Somersetshire county council constituting the Wincanton rural district a hospital district under the Isolation Hospitals Acts. The Board after local inquiry issued an order dismissing the appeal and I cannot reopen the matter now. There have been several cases in which rural districts have been constituted hospital districts under the Isolation Hospitals Acts and many more in which permanent hospitals for infectious disease have been established in such districts under the Public Health Acts.

The Health of Miners.

Mr. COCHRANE asked the Secretary of State for the Home Department whether the report and evidence of the Royal Commission which had been considering the health and safety of miners could be laid upon the table forthwith in order to prevent the delay which would occur owing to the decision of the Government that the scope of the Commission should be enlarged by reporting upon accidents in quarries.—Mr. GLADSTONE replied: The first report of the Commission, which deals with the use of breathing appliances, will be presented to Parliament this week and I am informed that the first volume of evidence is likely to be ready next week. A large number of questions connected with coal mines upon which evidence is now being taken remain to be dealt with by the Commission, and I understand that it intends to present its report upon these before proceeding to that part of the inquiry which relates to quarries.

The Treatment of Inebriates in London.

Mr. PICKERSGILL asked the Secretary of State for the Home Department whether his attention had been drawn to the fact that the London County Council had determined to terminate the arrangement which it entered into in 1904 with the National Institution for Inebriates, under which inebriates committed from London were sent to the latter's reformatories on condition that the more hopeful class of cases should be transferred to the Council's reformatory at Farmfield; whether the effect of this decision would be that London magistrates would be deprived of the opportunity of committing inebriates to inebriate reformatories, except as regarded a small number of strictly selected cases eligible for Farmfield; and what steps he proposed to take to render possible the continued committal

of London inebriates to reformatories in suitable cases, so that the Inebriates Act might not be made largely inoperative so far as London was concerned.—Mr. GLADSTONE replied (by written answer): My attention has been drawn to the decision of the London County Council to discontinue its present provision for the reception of all classes of female inebriates and to restrict its work to a few selected cases eligible for Farmfield, and there is no doubt that if this policy is maintained the London magistrates will be deprived of the opportunity to commit female inebriates to reformatories save as regards a few isolated cases. I am about to communicate with the Council upon this important matter.

THURSDAY, JUNE 6TH.

Vivisection Licences.

Mr. SMEATON asked the Secretary of State for the Home Department whether, in addition to the two inspectors, Dr. Thane and Sir James Russell, and the Association for Research mentioned in the appendix of the first report of the Royal Commission now sitting, he had any other expert advisers in the matter of vivisection licences, and, if so, whether, in accordance with the recommendations of the Royal Commission of 1876 to the effect that the names of these advisers should be known to the public, he would inform the House of the names of these other expert advisers. Mr. SMEATON further asked the Home Secretary whether, if his expert advisers in the matter of vivisection licences consist solely of the Association for Research and the two inspectors, he would, in view of the opinions and advice tendered by the Royal Commission of 1876, add to his advisers some independent persons whose interests were not bound up with those of the vivisectors.—Mr. GLADSTONE said, in reply: As I have already informed my honourable friend the usual procedure in applications made to me for licences to perform experiments on living animals is set out in the appendix to the first report of the Royal Commission on Vivisection. Occasionally, where questions of great importance have arisen upon which it was advisable to obtain the opinion of the highest authorities, the Royal Colleges of Physicians and Surgeons and the Pharmaceutical Society have been consulted. I do not propose to make any change in the existing practice pending the report of the Royal Commission now sitting. The Commission of 1876 said that the advisers of the Secretary of State ought to be persons "of competent knowledge and experience" and the inspectors satisfy this description. I may add that no licence or certificate is granted without the recommendation of the eminent authorities mentioned in section 11 of the Act of 1876.

The Condition of Belfast Factories.

In answer to Mr. DEVLIN, who asked whether the Home Secretary was aware that many of the girls in the Belfast textile factories complained of the bad air in them and that the death-rate from consumption amongst the workers was high, Mr. GLADSTONE said that the conditions in the flax and linen factories in Belfast were recently made the subject of a special inquiry and new regulations had been issued which should lead to a considerable improvement in the ventilation and generally in the conditions under which work was carried out.

Medical Posts at His Majesty's Embassies.

Sir WILLIAM COLLINS asked the Secretary of State for Foreign Affairs whether he would state to how many of His Majesty's embassies and consulates medical officers or advisers were attached, what were the medical and surgical qualifications required of candidates for such posts, and what were the salaries and conditions of service attached to each of them.—Sir EDWARD GREY furnished the following written answer: The salaries and allowances provided for medical officers are given in the estimates for diplomatists and consular services under the names of the various posts. The officers are duly qualified practitioners and those who receive allowances are usually selected on the spot. The following are the principal posts: Constantinople, £700; Peking, £650 to £700; Alexandria, £500; Tokio, £350; Tehran, £600; Bangkok, £250; and Zanzibar, £400. Quarters are provided at Peking and Tehran. Officers who take private practice are not pensionable.

The Plague in India.

Several allusions to the plague in India were made in the course of the debate on the Indian Budget.

Mr. MORLEY (the Secretary of State for India) in the course of his annual Budget statement, said that this was a prosperity Budget. He had, however, to admit that a black shadow fell across the prospect, for the plague figures were appalling. But let them not get unreasonably excited about the appalling figures. If they had reviewed the plague figures last September they might have hoped that this terrible scourge was on the wane. From 92,000 deaths in the year 1900 the figures went up to 1,100,000 in 1904, and they exceeded 1,000,000 in 1905. In 1906 a gleam of hope arose and the mortality sank to something under 500,000. The combined efforts of the Government and of the people produced that reduction, but, alas, since January, 1907, the plague had again flared up in districts which had been filled with its terror for a decade. For the first four months of this year the deaths were 642,000, and exceeded the record for the same period in any past year. Honourable members must remember that they had to cover a very vast area, and he did not know if these figures would appal them if they took the area of the whole of Europe. It was in 1896 that the plague first appeared in India, and up to April, 1907, the total figure of those human beings who had died from it was 5,250,000. But dealing with a population of 300,000,000 this great mortality, although enormous, was not at all comparable with the Black Death and other scourges which spread over Europe in earlier times in proportion to the population. The plague mortality, which was higher this year than in 1904, only represented a death-rate of about 3 per 1000. It was local and particularly centred in the Punjab, the United Provinces, and Bombay. No one, he cared not to what school of Indian thought he belonged, could deny that measures for the extermination and mitigation of this disease had occupied the most serious, constant, unflagging, zealous, and energetic attention of the Government of India. But the difficulties which they encountered were enormous. It was possible that it might be said that afternoon by some honourable Members that the Government was not enforcing with sufficient zeal proper sanitary rules, but he was certain that other honourable Members would point out that the great difficulty in the way of sanitary rules being observed arose from the reluctance of the population to practise them. They were naturally suspicious and when all these new rules were forced upon them they naturally resented and resisted them. He would not detain the House with the details of all the proceedings they were taking. They had instituted long scientific inquiries with the aid of the Royal Society and the Lister Institute. Then they had very intelligent officers, who had done all they could to trace the roots of this disease and to discover, if they could, any means to prevent it. It was a curious thing that while there appeared to be no immunity from this frightful scourge for the natives there was an almost entire immunity in the case of Europeans. It was difficult to understand this immunity. The right honourable gentleman then proceeded to deal with other topics.

Dr. RUTHERFORD, who took part in the subsequent debate, said that the plague was one of the chief causes of the unrest in India. It was a preventable disease. It had been brought under control in most countries and only in India had it had such awful effects. The Government had not, in his opinion, taken sufficient measures to cope with this terrible scourge. It had been advised by the highest medical authorities, with a knowledge of India, that it should engage a sanitary army composed entirely of Indians, so that there might be no degradation of Indian homes by the entrance of foreigners, to see that the sanitary requirements were carried out. In his opinion the Government of India could not better spend the surplus at its disposal than in providing such a sanitary army.

Mr. HORNIMAN (the Under Secretary for India), speaking towards the end of the debate, said that no one could fail to sympathise with the people of India in the horrible infliction of plague which had fallen upon them. But that was not the hand of man. It was the hand of God.

Sir H. COTTON: Do not blame God for it.

Mr. HORNIMAN said that no man was more moved by the sufferings of the people of India than was the Secretary of State. Let the House consider what the Indian Government had done to mitigate this misfortune. The subject had been engaging its attention. It had made careful inquiries and taken such measures as were within its power and as the state of the people would permit. The Government of India could not press the people too much, because this might rouse more dislike for the measures of relief than was likely to promote their success. The success of the measures depended upon the coöperation of the people themselves. It was freely admitted that in some ways the executive which dealt with the plague wanted strengthening. They were prepared to supply native medical men acquainted with the habits and customs of the people and sufficiently trained in sanitary science to cope with this great evil and also to supply native servants well acquainted with the measures to be taken for the relief of plague. One point greatly excited the interest of the people of India. They asked how it was that natives died in millions and Europeans by single individuals. It was easy to understand how in the minds of an ignorant and easily excited population suspicion might be aroused by the disparity in the numbers who died. Scientific investigations had shown that the plague was largely disseminated by the agency of rats and of the fleas which infested the rats, and it was a fact that rats were mostly found in native houses. A further cause of contamination was germs in the soil, and the natives, who walked barefooted, took up the germs from the earth, while Europeans were protected by their shoes. Laboratories were being widely established to meet all demands for inquiry and all possible means which human ingenuity could suggest and science could devise were being taken by the Government of India to cope with the evil.

FRIDAY, JUNE 7TH.

Tramway Tickets and Disease.

Mr. SUMMERBELL asked the Secretary of State for the Home Department whether his attention had been called to an analysis of tramway tickets carried out by Dr. Busquet of Bordeaux, and the statement made in relation thereto that four out of five tramway tickets taken at random in Paris might transmit dangerous diseases; and, if so, would he state whether he was prepared to have an analysis of tramway tickets in London.—Mr. GLADSTONE (in a written answer) replied: My attention has not been called to this matter, and, as at present advised, I do not think there is any need to take such steps as the honourable Member suggests.

MONDAY, JUNE 10TH.

Insanitary Schools in Ross-shire.

Mr. WEIR asked the Secretary for Scotland whether he would state in what way he proposed to deal with the sanitary defects in the public schools on the western mainland of Ross-shire and the Island of Lewis, as disclosed in the statement made by the medical officer of health of the county in his last report, to the effect that there was still much to do in the case of schools on the West Coast and the Lews, particularly with regard to the want of a due supply of pure water and the filthy condition of the cloakrooms and usual conveniences.—Mr. SINCLAIR replied: On the general question raised by my honourable friend I may refer him to the Local Government Board report for 1906. The annual report of the medical officer of the county of Ross and Cromarty goes to show that, supported by H.M. inspector of schools, he is drawing the attention of school boards to such defects as exist. When cases of failure of school boards to act on the recommendations of the sanitary officials are brought to the notice of the Local Government Board it is the Board's practice to coöperate with the Scotch Education Department in securing improvements in the sanitary conditions of schools.

Colwyn Bay Drainage.

In answer to Mr. WEIR, Mr. BURNS stated that he was informed that the whole of the drainage of Colwyn Bay had been linked up with the new drainage system and that the old sewer outfalls had been done away with.

The Royal Commission on Sewage Disposal.

Mr. THOMASSON asked the President of the Local Government Board whether the Royal Commission on Sewage Disposal, appointed on May 7th, 1898, was still sitting; if so, whether he could inform the House when it would issue its report on the bacterial or artificial methods of sewage treatment as distinguished from the natural method or land treatment; and when the final report would be issued.—Mr. BURNS said: The Royal Commission is still sitting, and I understand that in its fifth report, which it hopes to issue before the end of the year, the methods of sewage treatment referred to in the question will be dealt with. I further understand that the investigation of the disposal of trade effluents when not mixed with sewage, which will

form the subject of the final report of the Commission, has been commenced.

American Tinned Meat.

Captain FABER asked the President of the Board of Trade whether he had any official information showing that a report had been published by the State Commissioner of Health at Albany to the effect that the reforms to be made in American tinned meat were still incomplete, and that the chemical analyses on 154 samples of canned meats showed the presence of boron preservative and other bad matter; and, if so, whether he would take steps to prevent these canned meats being landed in England.—Mr. BURNS (who replied) said: I have seen an account in a newspaper of the report referred to in the question. It does not appear to me that in the present state of the law I am empowered to take action of the kind suggested by the honourable Member; but as he is no doubt aware, I have before the House a Bill which would empower me to make regulations authorising measures to be taken for the prevention of danger to the public health arising from the importation of articles of food.

TUESDAY, JUNE 11TH.

Combating the Plague.

Dr. RUTHERFORD asked the Secretary of State for India whether he had yet received answers to his questions addressed to the Government of India relating to the numbers of medical men engaged in combating the plague.—Mr. MORLEY replied: I have not yet received the return. The figures may take some little time to collect.

Deaths from Plague.

Dr. RUTHERFORD asked the Secretary of State for India whether he would give the House the weekly returns of deaths from plague during May for each province in India.—Mr. MORLEY answered: The deaths returned for the weeks ending May 4th, 11th, and 18th respectively are for all India 77,772, 82,400, and 67,512. Later figures have not yet been received. I shall be very willing to communicate the provincial returns for those weeks to the honourable Member or to place them in the library.

The Administration of the Vaccination Act.

Sir WILLIAM COLLINS asked the President of the Local Government Board whether he was aware that, by general orders of Oct. 31st, 1874, the Local Government Board prescribed it as the duty of the guardians of the poor to give directions to their vaccination officers to take proceedings in cases in which the proceedings of the Vaccination Act of 1867 had not been complied with, and that in July, 1875, the Local Government Board obtained a mandamus to compel the guardians of the Keighley union to give directions to their vaccination officer; and that in consequence of their default the guardians of that union suffered imprisonment; whether, seeing that Lord Herschell's Commission on Vaccination reported in 1896 that it was the duty of the guardians to put the law in regard to vaccination in operation, he would say whether the powers and duties of guardians in regard to such prosecutions under Sections 29 and 31 of the Act of 1867 had since been altered by statute; and, if not, whether the powers of the guardians in directing their officers in instituting proceedings under the Vaccination Acts were the same now as they were held to be in 1875 and in 1896.—Mr. BURNS sent a written reply in the following terms: I am aware of the facts referred to in the question. Some limitations were placed by Sections 2, 3, and 4 of the Vaccination Act, 1898, on the cases in which prosecutions could be instituted under Sections 29 and 31 of the Vaccination Act, 1867, but, subject to this, there has been no statutory provision since 1896 which would affect the powers and duties of guardians in regard to prosecutions under those sections. Since that date, however, the courts of law have decided that it is the duty of the vaccination officer to institute these prosecutions without any directions from the guardians. When in 1898 the Order of 1874 mentioned by my honourable friend was rescinded, the provision which it contained as to directions by the guardians in cases of this kind was not inserted in the Order which took its place. That Order provided, however, that the guardians should from time to time ascertain whether the vaccination officer was performing the duties imposed on him by the Vaccination Acts of enforcing the provisions of those Acts and the duties imposed on him by the Order, and should require the due performance by him of such duties.

WEDNESDAY, JUNE 12TH.

Women Sanitary Inspectors.

Mr. COOPER asked the President of the Local Government Board, whether he could state how many women had passed during the last ten years the examination required to qualify for a sanitary inspector; and how many sanitary authorities had appointed a female sanitary inspector on their staff.—Mr. BURNS replied (by written answer): It is only in London that a sanitary inspector is required by law to be the holder of a certificate granted by a body approved by the Local Government Board to the effect that he has by examination shown himself competent for such office. I understand that the number of women who have passed the qualifying examination during the ten years ended 31st December last is about 216, and that the number of metropolitan borough councils who have appointed one or more female sanitary inspectors is 22.

MEDICAL AND DENTAL COMPANIES: EVIDENCE BEFORE A SELECT COMMITTEE.

A Select Committee of the House of Lords, presided over by Lord HYLTON, heard further evidence on June 6th in connexion with the Prohibition of Medical Practice by Companies Bill and Dental Companies (Restriction of Practice) Bill.

Mr. R. W. TURNER, counsel to the British Dental Association, was the first witness. He stated that he had been about 15 years counsel to this association and had also on behalf of the British Medical Association and Medical Defence Union had to consider proposals for the amendments of the Medical and Dentists Acts. His experience of these Acts was that very considerable ingenuity was shown in evading them. The views of the British Dental Association were, of course, that company practice in dentistry should be absolutely prohibited. The public suffered from company practice as well as the dental profession. Enormous fees were sometimes charged by these companies—twice or three times as much as a first-class dentist would charge. However, he had considered the Dental Bill with a view to finding out whether, and how, it could be evaded. He would, in the first place, suggest that companies, if allowed to practise at all, should only practise by means of registered dentists, and, further, that no new companies should be allowed to be formed for the practice of dentistry. He submitted a number of specific amendments with a view to strengthening the Bill. He pointed out that the word "company," as used in the Bill, would not prevent a foreign company, or one registered in the Channel Islands, or the colonies, from carrying on by means of agencies the business of dentistry and thereby successfully evading the proposed Bill. These difficulties would be got over by defining a company under the Bill as "any association, whether incorporated or unincorporated, within or without the United Kingdom." He would extend the liability to answer for a contravention of the law to all persons who were engaged at the place where the contravention occurred in the practice of dentistry on behalf of a company. Mr. Turner further pointed out that the penal clause of the Dentists Act had received a more limited interpretation in Scotland than in England or Ireland. In Scotland it was not an offence for an unregistered man to use the description dental surgery. In England and Ireland this was an offence. In other words, the Scotch courts had decided that the words "style, title, or description" were limited to words of personal description and not to words descriptive of premises or practice. The effect of this decision was to afford an easy means of evading the Act in Scotland. This was shown by the fact that in the return of companies practising dentistry made in 1904 there were 70 in England and Wales and 22 in Ireland and only three in Scotland. In order to deal with this anomaly he would submit that a subsection should be introduced into the Bill to provide that the words "title addition or description" where used in the Dentists Act, 1878, should include "any words or letters implying that the practice of dentistry is being carried on." He further pointed out that there were omissions from the Bill in the attempt to penalise the company *qud* company. The first point had reference to the serving of the summons. Under the Summary Jurisdiction Acts a summons must be served by post at the registered office of the company. There was no machinery whereby this could be effected if the registered office were in Ireland and the offence were committed at a branch office in England and *vice versâ*. There was a machinery as between England and Scotland but it was complicated. He therefore suggested that the summons could legally be served at any office or place of business of the company within the jurisdiction of the court in which the proceeding was brought. There was a further difficulty with regard to the recovery of penalty and costs. In the case of an individual imprisonment followed in default of distress. This was impossible in the case of a company and there was no process whereby a company *qud* company could be forced to pay if there was not sufficient distress. Goods and materials could all be covered (1) by a debenture; (2) by a hiring agreement; (3) by a bill of sale; and (4) by being the property of the practitioner or some other person. He would therefore suggest that to make the Act effective the following provision should be inserted: "The court shall, when a registered company is fined, direct that the fine and costs shall be paid by the company by a date not later than one month from the date of conviction and if the fine and costs are not paid by that date the court shall forthwith send a certificate of such conviction to the Registrar of Joint Stock Companies where the company is registered and the Registrar shall forthwith strike such company off the Register." Mr. Turner further thought that it would be desirable to add a clause that a person should not be entitled to recover for any work done or materials provided unless he was registered under the Dentists Act. He did not know whether it would be possible to make a provision whereby any person on the relation of the law officers of the Crown could take proceedings by way of injunction or interdict against a company carrying on business in contravention of the Act. A company was so elusive that he believed some such clause as this would do more than anything else to prevent an evasion of the Act. If it were inserted the need for invoking the penal clauses would be diminished and foreign companies could be got at effectively in this country, so far as their agencies were concerned. The difficulties that he had referred to with regard to the recovering of fines also applied to recovering damages and costs for malpraxis. The unfortunate patient would probably get nothing. He knew of such cases within his own experience. The practitioner vanished and he could not be brought before the General Medical Council. The security that the patient got by having the individual responsibility of the practitioner was lost when the company appeared on the scene. And when an action for damages lay it was discovered that the company, being a corporation, had neither cash nor conscience.

Lord LUDLOW: Assuming that this Bill passes into law, qualified dentists can form a company. Do you see any objection to that?

Mr. TURNER: I do see objections to it. Take a company formed of seven qualified men. There is nothing in the Bill which would cause them to do anything else than to employ some registered practitioner and get him to carry on a practice on their behalf. You at once have this registered man employed. What is the object? Gain. You at once lose the relation of practitioner to patient. He at once says: "I must make money for my employers." Assuming that he is guilty of malpractices the company gets rid of him. He goes elsewhere and another man is put in his place. The company continues. A judgment is got against the company. These registered people perhaps have given some outside person a debenture over the company's assets. Then nothing can be got. In the case of an individual professional man a personal relationship exists. Any other arrangement would lead to avoiding the liability.

Dr. G. A. HERON, chairman of council of the London and Counties Medical Protection Society, was the next witness. He stated, in answer to the CHAIRMAN, that the Prohibition of Medical Practice by Companies Bill had been considered by the committee of his society. They would prefer to have the Bill passed rather than not to have it. However, they hoped that before it became an Act it might be made much more far-reaching than it was at present. For instance, they should like to see a Bill of this kind hitting at unqualified men in whatever way they might practise and in such a way as to bring them within the grasp of the law.

The CHAIRMAN: I think, Dr. Heron, it would not be within the terms of our reference to go into subjects altogether outside the scope of the Bill. What we must ask you to do is to confine yourself to the subject-matter of the Bill and the views of your society on it. Of course, you are thoroughly acquainted with the objects of the Bill as

set out in the memorandum, but I think I must draw the line at other objects, however desirable, for which your society may wish to see legislation passed.

Dr. HERON: May I then take the clauses of the Bill as they stand? He went on to say that his society thought that, although it was very desirable that joint-stock companies should be dealt with in the way proposed in the Bill, in embracing joint-stock companies alone the scope of the measure was unduly limited. In this way many of the companies now practising would escape. They thought the Bill might be so amended as to bring these companies within its scope.

The CHAIRMAN: What are these other companies to which you allude?

Dr. HERON: Companies which are not joint-stock companies.

The CHAIRMAN: Within your own knowledge are such companies in existence?

Dr. HERON: Yes. We think it would be very easy for companies dealt with under this Bill to drop the words "joint-stock companies" and so put themselves outside the scope of the Bill.

The CHAIRMAN: I see your point.

Dr. HERON further said that one of the subsections of Clause I. of the Prohibition of Medical Practice by Companies Bill laid down that anything that would be an offence under the Medical Acts if committed by an individual should be an offence if committed by a company. His society found it very difficult to work the Medical Acts with a view to preventing malpractices. The Medical Acts hit very few men who did not pretend to be legally qualified. They dealt very effectively with the man who pretended to be legally qualified when he was not. He would suggest something should be added to make the scope of the Bill wider and to bring into its scope men who were unqualified.

The CHAIRMAN: I doubt if that is not a different object from that of the Bill. Do you come to tell us that there are a great many illegalities going on around us by unqualified men?

Dr. HERON: What I come here to say is that we accept this Bill with pleasure but we hope it is in the power of your lordships' committee to make the Bill a little more effective than it is.

The CHAIRMAN: Are you friendly to the lines the General Medical Council is taking?

Dr. HERON: Certainly. He further said that the British Medical Association requested his society to send a witness to give evidence before the committee.

Dr. A. G. BATEMAN, general secretary to the Medical Defence Union, then gave evidence. After giving some particulars as to the work of the Medical Defence Union he said that in the past 20 years they had prosecuted about 200 unqualified practitioners. The difficulties which they found in dealing with these unqualified practitioners were many. One of these difficulties would undoubtedly be got rid of if the Bill prohibiting practice by joint-stock companies was passed. That difficulty, however, was a minor one. Although there were a certain number of companies practising medicine under the protection of the Companies Act there were a much larger number of companies which were practising medicine and which were not under the Companies Act but which were equally immune from prosecution. There were literally hundreds of companies which would not be hit by the Bill. For one company of this kind under the Limited Liability Companies Act there would be 20 or 30 perhaps not under these conditions. He had a strong suspicion that malpractices, like the procuring of abortion, were carried out at some of the places at which these companies carried on business. However, no definite evidence could be obtained and therefore action could not be taken. His point was this, that although the Bill would have a good effect so far as it went it would only apply to companies under the Joint Stock Companies Acts.

The CHAIRMAN asked what amendments the Medical Defence Union had to suggest with respect to the Bill.

Dr. BATEMAN: The amendment we would like to the Bill would be a complete alteration of the title and a complete alteration of the clauses, so as to put a stop to medical practice for gain by persons who are not qualified. I am afraid that nothing else would be effectual. I am afraid that this Bill will have a very slight effect.

The CHAIRMAN: You say then that this Bill will do very little.

Dr. BATEMAN: I think it will have very little effect. These joint-stock medical companies will liquidate and will then become more or less private companies immune from prosecution. They cannot be touched by the Medical Acts, the Companies Acts, or by this Bill.

The CHAIRMAN: I am afraid, then, that this Bill has very few friends.

Dr. BATEMAN proceeded to state that the practice of some of these companies was not confined to the poor by any means. In one case which he had come across he had found that even general officers in the army had come forward to support what was nothing less than a fraud.

Mr. R. D. PEDLEY, who appeared as a witness from the London and Counties Medical Protection Society, strongly urged the suppression of dental companies.

Mr. H. ROWLAND BLUNT, who described himself as appearing on behalf of the National Association of Medical Herbalists, asked permission from the committee to tender evidence, on the ground that the Medical Bill would prevent that organisation from being carried on under the Companies Acts. He stated that the association was composed of medical herbalists for mutual protection. It had between 200 and 300 members.

The CHAIRMAN: Will you describe generally what your work consists of?

Mr. BLUNT: It is treating patients with herbal remedies who come to the shop or place of business.

The CHAIRMAN: Do you say your members have a large practice?

Mr. BLUNT: Some of our members have very fair practices.

The CHAIRMAN: An increasing practice?

Mr. BLUNT: I think I can safely say so.

The CHAIRMAN: Medical herbalists are generally what is known as unqualified men?

Mr. BLUNT: Unregistered men.

The CHAIRMAN: We have heard the word "unqualified" used.

Mr. BLUNT: Unregistered is a better word, your lordship.

The CHAIRMAN: But do you recover fees?

Mr. BLUNT: No, not fees for advice, but we recover for goods supplied.

Lord LUDLOW: Do you call yourselves physicians?

Mr. BLUNT: No.

Lord LUDLOW: Surgeons, then?

Mr. BLUNT: No.

Lord LUDLOW: Medical practitioners?

Mr. BLUNT: Yes. Medical practitioners with herbal remedies.

Lord LUDLOW: Could you come here and say, "I am a medical practitioner and therefore I protest against the Bill?"

Mr. BLUNT: No. I do not. Further, he could not claim, when pressed by members of the committee, that medical herbalists were qualified practitioners.

The committee finally decided that it would not hear Mr. Blunt as a witness on the details of the Bill.

Mr. VICTOR GOODMAN gave evidence in which he expressed views contrary to provisions of the Bill dealing with dental companies. He was of opinion that the Bill would be unjust to men who might have been removed from the Register on a mere question of etiquette. He contended that it was never intended that removal from the Register should altogether prevent a man from getting his living. He also stated that it was quite possible to supply teeth for a guinea a set.

Mr. L. CALLENDER, who stated that he belonged to the Amalgamated Association of Mechanical Dentists, also appeared as a witness. He had sold thousands of sets of teeth at a cheap rate and he maintained that the surgical and mechanical departments of dentistry were distinct. He never allowed his staff to interfere with people who required surgical aid. He maintained that the Bill would be unjust to the class which he represented.

The committee at this point adjourned until Monday, June 10th.

ON Monday, June 10th, the Select Committee of the House of Lords resumed the hearing of witnesses on the Prohibition of Medical Practice by Companies Bill and the Dental Companies (Restrictions of Practice) Bill, Lord HYLTON again presiding.

Mr. G. S. BARNES, Controller of the Companies Department of the Board of Trade, was the first witness. He spoke at some length of the difficulties which the Board had experienced in dealing with the registration of dental companies in view of conflicting legal decisions and opinions. However, in 1905, they had asked the English, Irish, and Scottish law officers of the Crown to meet in consultation and frame an opinion to guide the Board. They met and gave their opinion in the following terms:—

"We recommend that if the title of the proposed company contains the word 'dentist' or any expression calculated to lead the public to suppose that the company is specially qualified for the purposes of dentistry, registration should be refused, even if one or more of the signatories to the memorandum of association are persons duly qualified to practise dentistry. When the title of the company is not misleading we think the registration should be granted, although the company is formed to carry on the business of a dentist. If the company, after being formed, advertises itself as dentists or dental surgeons the question whether any liability is thereby incurred must depend on the view ultimately taken on the construction of the Dentists Act. The possibility of such an abuse is in our opinion no reason for refusing the registration."

The CHAIRMAN: Would you suggest that the words "joint stock" should be struck out of the Dental Bill so as to throw the net as wide as possible?

Mr. BARNES: I think it would be well to spread the net as wide as possible.

Lord KNUTSFORD: If a company were formed abroad that would strike at it?

Mr. BARNES: Yes.

The CHAIRMAN: The scope of the Bill includes companies registered in "the British Islands." I think that these words were introduced to include the Channel Islands and the Isle of Man. Would the term "United Kingdom" include the Channel Islands?

Mr. BARNES: I do not think so.

The CHAIRMAN: Would the words "British Islands" include the Channel Islands?

Mr. BARNES: I think so.

The CHAIRMAN: Are the Channel Islands in the British Islands?

Mr. BARNES: They are a fief of the Dukedom of Normandy.

The CHAIRMAN: But is the law carried out as under the Duke of Normandy now?

Mr. BARNES: I think it is carried out under the old *coûtume de Normandie*. The witness admitted that it had been the custom of companies to register outside the United Kingdom to evade the Companies Acts.

Mr. JAMES V. ALBERT was also examined as a witness. He said that frequently patients had been improperly treated by so-called dental companies. He gave it as his opinion that the mechanical and surgical parts of the dental profession could not properly be treated as separate He did not want to see company practice recognised in dentistry.

Mr. BOWEN (Bolton), who has been a teeth extractor for many years and the managing director of a company carrying on a teeth business, also gave evidence. He admitted that he was not a qualified dentist, but he had gained experience in extracting teeth under the supervision of his father who was a medical man. He objected to the Dental Bill which would interfere with his business. It would give a monopoly to less reputable practitioners—the men who got into the dental profession in 1878. Many of them had not the training which many unregistered men had.

The CHAIRMAN: Mr. Bowen, I do not think you will make much of a point by attacking the Dentists Act of 1878. We cannot hear evidence on that. You had better confine your observations against the Bill to the way in which it will affect the public.

Mr. BOWEN argued that some dental companies met a public want. The men who would benefit from the Bill would be the men who obtained their registration from the fact that they were in practice before 1878. They would bring things into a worse state than ever. Dentists who held an L.D.S. would not be allowed by the institutions from which they got their diploma to take service with companies. The only persons to accept these terms would be the registered men who came into the Register before 1878.

Mr. FITZROY, of the Privy Council, appeared to give evidence of its views on the Bills. It was, he said, only owing to recourse being had to the Companies Acts that any considerable practice by unqualified persons of dentistry had come to be possible. The Privy Council had always held that no individual could profess to practise dentistry unless he was properly qualified.

Lord KNUTSFORD: We have been told that there is a great difficulty in separating the mechanical side of dentistry from the surgical.

Mr. FITZROY: I agree it is impossible to make the distinction and therefore the practice of unqualified persons should be eliminated.

Lord KNUTSFORD: You would also agree that the great majority of companies do not take the care to differentiate between the surgical and the mechanical work?

Mr. FITZROY: I should say so. The lack of skill disqualifies the subordinate from observing any instructions he has not to undertake the surgical work.

Lord KNUTSFORD: The Privy Council, I understand, approves of these Bills as they stand. Would it prefer stronger measures?

Mr. FITZROY: I think the Privy Council on the whole approves of them as they stand. I think it would be difficult to refuse the right to practise dentistry through properly qualified men to properly constituted companies.

Mr. F. W. BRADLEY, of F. W. Bradley, Limited, which carries on artificial teeth work in East Anglia, was then examined. He said that when he was studying pharmacy he also studied dentistry. In consequence of his business having grown to a great extent he registered it under the Joint Stock Companies Acts. He had employed assistants, some registered and others unregistered.

The CHAIRMAN: You hold that the company F. W. Bradley, Limited, is a source of benefit to the public?

Mr. BRADLEY: I have a great deal of evidence to prove that it has been of benefit in East Anglia. He went on to say that it met a demand. It used the words "artificial teeth manufacturers" as a description. The Dental Bill before the committee would if it became law prevent it from practising dentistry. That would be absolute ruin to him.

The CHAIRMAN: In the interest of the public, which we must consider more than anything else in this legislation, you think your company has been of benefit by the lower charges it makes?

Mr. BRADLEY: I think so undoubtedly.

The CHAIRMAN: Now supposing the Bill becomes law, would there be great difficulty in getting qualified assistants? Is there a greater difficulty in getting qualified assistants than getting unqualified?

Mr. BRADLEY: There is a great difficulty in getting registered men. The young men have the L.D.S. and they prefer to work on their own account. He had himself found a great difficulty in getting qualified men. Hence he employed unregistered men. Such registered men as were available were often incompetent.

Lord KNUTSFORD: You will admit that there are a great many bogus companies doing a great deal of mischief?

Mr. BRADLEY: Yes, my lord.

Lord KNUTSFORD: That is the case we have to meet. Now, do you think there are some working companies which can prove that they are doing a *bond-fide* business? If we exempt them your difficulty would be met?

Mr. BRADLEY: Yes, that would meet my views and the views of those who are carrying on *bond-fide* businesses.

Lord KNUTSFORD: So far as we have seen some companies have been able to act for the benefit of the public. If they can prove that they should be exempted from the Bill. Now is that your view?

Mr. BRADLEY: Yes, my lord.

Mr. DOWDESWELL, representing the Macdonald Manufacturing Company, also gave his views on the Dental Bill. The registered offices of his company had always been in London. They did not offer medical advice.

The CHAIRMAN: Do you practise dentistry?

Mr. DOWDESWELL: Only that part of it which is incidental to the adaptation of artificial teeth.

The CHAIRMAN: I should have thought that the adaptation of artificial teeth was incidental to dentistry. You have put it foremost.

Mr. DOWDESWELL: Yes, my lord.

The CHAIRMAN: There has been something said about qualified assistants. What are your experiences?

Mr. DOWDESWELL: There has been great difficulty in getting qualified assistants. We can only get the men registered in 1878. The conditions under which the licentiates in dental surgery obtain their qualifications prohibit them from accepting service with an advertising company.

The CHAIRMAN put it to the witness that companies put on the prices to earn dividends.

Mr. DOWDESWELL: It would be equally fair to say that the private practitioner puts it on to get the largest income he can. In precisely the same way we are entitled to as large a dividend as we legitimately can earn. He contended that the companies met a want. Supposing the Dental Bill passed into law, he suggested that a clause should be inserted to the effect that the General Medical Council should not prohibit fully qualified men from taking service with companies which advertised.

Mr. J. H. ROBERTS, solicitor to the Incorporated Society of Extractors and Adapters of Teeth, also appeared as a witness. He submitted that the registered practitioners were not sufficient for the needs of the country and that the members of his society filled the deficiency in a manner satisfactory to the public.

The committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

BRAUND, JAMES MONTAGUE, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Stratton (Cornwall) Rural District Council.

CALTHROP, LIONEL C. E., M.B. Durh., M.R.C.S., L.R.C.P., has been appointed Medical Superintendent of Woodhall Spa, Lincolnshire.

CRISP, JAMES ELLIS, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Lacock District by the Chippenham Board of Guardians.

DAWSON, GEORGE W., F.R.C.S. Irel., D.P.H., has been appointed Surgeon to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

FAIRCLOUGH, W. A., M.B., Ch.B. N.Z., has been appointed House Surgeon at the Royal Westminster Ophthalmic Hospital.

FIELD, F. E., M.B., Ch.B. Edin., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

HARE, T. G., M.D Freib., has been appointed Pathologist and Bacteriologist to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

HOLLICK, BERNARD SEPTIMUS, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Sturminster (Dorset) Rural District Council.

KELYNACK, T. N., M.D. Vict., M.R.C.P. Lond., has been appointed Honorary Physician and Medical Adviser to the Children's Home and Orphanage (London and nine country branches).

RICHARDSON, M. J., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wolston District of the county of Warwick.

SMITH, W. ALEXANDER, M.B., Ch.B. Aberd., has been appointed Assistant House Surgeon at the North Riding Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM CITY ASYLUM.—Resident Clinical Assistant (female). Salary £50 per annum, with apartments, board, and washing.

BIRMINGHAM GENERAL HOSPITAL.—Three Receiving-rooms Officers. Salary £150 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRADFORD POOR-LAW HOSPITAL AND WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

BRADFORD ROYAL INFIRMARY.—Resident Surgical Officer. Salary £150 per annum.

BRISTOL GENERAL HOSPITAL.—Physician. Also Assistant Physician.

CANTERBURY CITY ASYLUM.—Assistant Medical Officer. Salary £140 per annum, with apartments and laundry.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with rooms, board, washing, and attendance.

DR. BARNARDO'S HOMES.—House Surgeon and Resident Medical Officer at Her Majesty's Hospital for Children, Stepney Causeway, E. Salary £60, with board, lodging, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon. Also House Physician for six months. Salary £25, with board, residence, laundry, &c.

EGYPT.—Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Clinical Assistants.

GENERAL POST OFFICE, MEDICAL DEPARTMENT (Male Staff).—Assistant to the Medical Officers at Headquarters. Salary £200 a year, rising to £300.

GLOUCESTER, GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, lodging, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100, with board, residence, and laundry.

GUY'S HOSPITAL.—Gordon Lecturer on Pathology. Salary £500 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

INDIAN MEDICAL SERVICE.—An Examination for not less than 11 Commissions.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

LEICESTERSHIRE AND RUTLAND ASYLUM, Leicester.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary £25, with board, residence, and washing.

LIVERPOOL EYE AND EAR INFIRMARY.—House Surgeon. Salary £80 per annum, with board and lodging.

LONDON COUNTY ASYLUM, Horton, Epsom.—Fifth Assistant Medical Officer. Salary £150 a year, with board, apartments, and washing.

LONDON SCHOOL OF TROPICAL MEDICINE.—Entomologist.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 a year, with rooms, attendance, board, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60, with board and lodging.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Honorary District Medical Officers.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Senior and Junior House Physicians. Salary £50 per annum, with board and residence in each case.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—House Surgeons (females). Also Clinical Assistant.

NEWCASTLE-UPON-TYNE, CITY AND COUNTY OF.—Assistant Medical Officer of Health and Resident Medical Officer of the City Hospital for Infectious Diseases, unmarried. Salary £300 per annum, with board, lodging, &c.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and laundry.

NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

OLDHAM WORKHOUSE.—Resident Medical Officer, unmarried. Salary £150 per annum, with residence, coal, gas, rations, washing, and attendance.

OXFORD, UNIVERSITY OF.—Professorship of Pathology. Income of £700 per annum from the University Chest.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £110 per annum, with rooms, commons, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Junior Obstetric Assistant for six months, with board, lodging, and laundry. Also Clinical Assistants (all females). Also Assistant to the Clinical Pathologist (female). Salary £50 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and lodging.

SANITARY INSPECTORS' EXAMINATION BOARD.—Examiner.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Assistant Ophthalmic Surgeon to the "Dreadnought" Hospital.

SHEFFIELD FEVER HOSPITALS.—Junior Assistant Medical Officer. Salary £130 per annum, with board, lodging, and washing.

SHEFFIELD, UNIVERSITY OF.—Demonstrator in Physiology. Salary £150 per annum.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

UNIVERSITY OF LONDON (UNIVERSITY COLLEGE).—Assistant in the Anatomical Department and Curator of the Anatomical Museum.

WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board and service.

WEST BROMWICH DISTRICT HOSPITAL.—Senior House Surgeon, unmarried. Salary £110 per annum, with, board residence, and laundry. Also Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Officer in Charge of X Ray Department.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Senior House Surgeon. Salary at rate of £100 per annum, with board, residence, and washing.

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £80 per annum, with board, residence, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Louth, in the county of Lincoln; at Lochwinnoch, in the county of Renfrew; and at Whitby, in the county of Yorks.

Births, Marriages, and Deaths.

MARRIAGES.

ARNISON—TRUSTRAM.—On the 8th June, at St. Paul's Church, Avenue road, N.W., by the Rev. H. Bury, William Drewett Arnison, M.D. the eldest son of the late George Arnison of Allendale, Northumberland, to Christine Mary, youngest daughter of the late William Prince Trustram and Mrs. Trustram, of Lauderdale Mansions, Maida Vale.

BRADDON—JOSLING.—On June 6th, at Holy Trinity Church, Upper Tooting, William Vaudrey Braddon, M.B. Cantab., to Beatrice, second daughter of the late George Frederick Josling, Great Thurlow Hall, Suffolk, and Mrs. Josling, of Kinnouil, Tooting Common, S.W.

COLE—WHITE.—On the 11th June, at the Church of the Annunciation, Bryanston-street, W., by the Rev. Prebendary C. M. Harvey, Vicar of Hillingdon, assisted by the Rev. Canon E. B. Ottley, Vicar of the parish, Robert Henry Cole, M.D., of 25, Upper Berkeley-street, Portman-square, to Mabel Effie, widow of Arthur Thomas White, M.R.C.S., of the Egyptian Public Health Service.

SANDERS—BRANDON.—On June 12th, at St. Stephen's Church, Ealing, by the Rev. Eyton-Jones, Edward Arthur Sanders, of Northampton, younger son of Lieutenant-Colonel E. Sanders, to Ruby Ethel Ruth, fourth daughter of the late Henry Brandon of Queensland, and Mrs. Brandon, of 4, Kent Gardens, Ealing.

DEATH.

GILL.—On June 11th, at Pembury-road, Clapton, Samuel Lawrence Gill, M.R.C.S., L.R.C.P., within seven days of his 84th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE CHEMICALISED ROAD."

WITH reference to our annotation under the above heading in THE LANCET of May 25th, p. 1443, the managing director of the Akonia Syndicate, Limited, of 120-122, Birkbeck Bank Chambers, High Holborn, London, W.C., states that their "dust layer" known as akonia, the application of which is based upon its hygroscopic properties, has been used in some hundreds of towns in England and Wales since 1904, and up to the present "not a single complaint has been received of any unpleasant results either to tyres or clothes." It is stated that the preparation is odourless, and that if by chance it was spread on clothing a simple application of clean water would remove all effects. The preparation being clean compares favourably with tar and mixtures of oil and is said to have the advantage over tar and oil mixtures that it does not encourage side-slip. Reports are quoted in which very favourable opinions are given as to the effectual way in which akonia suppresses dust. The point which we raised was whether it would not be found that chemical salts in the long run would lead to the formation of irregularities in the surfaces of roads or prove destructive to tyres, metal work, boots, or the hoofs of horses and cattle. Common salt, it is true, is a neutral substance, but everybody is familiar with its corrosive action on metal fittings, leather, and so forth. Calcium chloride, even when neutral, acts in a similar way owing to the dissociation of its "ions" calcium and chlorine when dissolved in water.

THE MEDICAL PROVISION ON SMALL LINERS.

To the Editors of THE LANCET.

SIRS,—When a medical man advises a patient to take a sea voyage he does not always pay sufficient attention, I think, as to the quality of medical provision on the particular vessel selected. This may be of grave importance to the traveller; I have seen instances of this on the many voyages it has been my lot to take as an ordinary passenger. Ship surgeons vary very considerably even on British liners, though, speaking generally, those on the big British lines are superior to those on the continental. The worst of all are the men on the Japanese passenger steamers. According to my experience, any voyager to the East likely at all on the journey to need medical assistance cannot do better than patronise the P. & O. boats. The surgeries on these liners are admirably fitted up, the supply of drugs adequate, and the surgeons as good, if not better, than any to be found on the sea. On some foreign boats, where things are run on the cheap and the passage money low, the so-called "qualified" surgeon and the medicines at his disposal are alike very poor. Invalids are running a grave risk who submit to be at the mercy of an incompetent man when far away at sea and with no other help at hand.

I am, Sirs, yours faithfully,

Nanning Fu, China, May 1st, 1907. H. LECHMERE CLIFT.

AN ILLUSTRATION OF HOW CONSUMPTION IS SPREAD.

AT Poplar recently Mr. Wynne Baxter held an inquest upon the body of a labourer who was proved by medical evidence to have died from consumption. It was also proved that the wife of the deceased had died only two months earlier from the same disease and that upon her also an inquest was held. The medical witness pointed out to the jury that the husband had probably been infected by his wife, but it is to the fact of an inquest having been held in both cases that the attention of the public should also be drawn. The inquests must have been rendered necessary owing to neither the husband nor the wife having sought medical aid, and their not having done so even when dying illustrates the difficulties which beset those who would diminish the spread of the disease which proved fatal to them.

THE ANTIVIVISECTIONIST AT LARGE.

IN the latter part of the month of April a meeting was held at Malvern with a view to form a Malvern branch of the National Antivivisection Society. The chairman was Mr. H. A. Acworth. The lecturer was Mr. Sommerville Wood, the official lecturer of the society, and among the audience was Viscount Harberton. Mr. Sommerville Wood mentioned that Mr. C. C. Duncan, the Worcestershire county analyst, held a licence for vivisection, that the licensed place was Shuttlefast farm, Malvern, and that 21 experiments had been conducted by him under one licence and six under the other. Viscount Harberton then wrote to the *Malvern Advertiser* saying that he considered that Mr. Duncan had "taken out a licence to do what he regards to be justifiable but which we, on the other hand, regard as wicked and cruel." The chairman of the Worcestershire county council, Mr. Willis Bund, then wrote to the Malvern papers pointing out that it was quite true that Mr. Duncan did hold a vivisection licence, but that the only experiments at Shuttlefast farm were placing live fish in the different effluents from the sewage farm to see how and to what degree they were affected by it. Lord Harberton therefore wrote to the *Malvern Advertiser* to say that as regards what was done at Shuttlefast farm Mr. Duncan could not be considered a vivisector.

It appears, however, that Mr. Duncan held a vivisection certificate for some premises at Worcester and under this certificate certain inoculation experiments had been made as regards a suspected case of anthrax in cattle, a suspected case of anthrax in man, and a suspected case of tuberculosis in man. These experiments were all negative, with the exception of the case of suspected anthrax in man, which gave a positive result, and the patient was promptly treated for anthrax, his life being presumably saved thereby. These experiments seem to have filled Viscount Harberton with horror. He now considers that Mr. Duncan is a vivisectionist, and more than that, he considers that Mr. Willis Bund is one also. The class of mind which can take exception to experiments of this kind is extraordinary.

A MEDICAL SCHOOLMASTER.

To the Editors of THE LANCET.

SIRS,—I should be glad if you would kindly advise me through your columns with regard to the following case. I have taken down my plate and have advertised in a London paper that I am prepared to take private pupils, giving the nature of my art degree at Cambridge. In support of my competency to look after the physical health of the boys I have said that I am a fully qualified medical man and have mentioned my degrees. Is there anything unprofessional in this or anything that the Medical Council would object to?

I inclose my card and thank you in anticipation.

I am, Sirs, yours faithfully,

June 10th, 1907. M.B.

*** We see nothing unprofessional whatever in our correspondent's action, while there is much to be said in favour of the medical schoolmaster.—ED. L.

THE BARKER VIBRATOR.

IN THE LANCET of Sept. 23rd, 1905, we described the Barker vibrator and gave it as our opinion that it was a good and carefully constructed instrument for producing rapid vibration of the tissues. The instrument which we then described was driven by a small motor fixed upon a pedestal. Mr. J. Barker has now brought out his vibrator in a portable form—i.e., the motor together with the applicator weigh about four pounds and so can be easily carried by the medical man to the patient's house. The current is taken from the ordinary mains and the motor can be supplied for either alternating or continuous current. The motor is wound to take a current of 110 volts pressure, and if the current in use is delivered at a higher pressure a lamp resistance is supplied. There is only one disadvantage which the portable motor presents as against the fixed motor, and that is that as it is moved about it is sometimes noisy. But this is a very small disadvantage. The price of the new style of vibrator is £5 5s. and for therapeutical effects it is practically as good as the old style. As we said in our previous report, the vibrator does not appear to be exploited as a cure for every disease, nor are members of the public invited to apply it themselves.

AN IMPROVED COPPER SOLUTION FOR THE ESTIMATION OF SUGAR.

SO many modifications of the original method suggested by Fehling for the estimation of sugar have been proposed from time to time that it may seem superfluous to mention another. Still, as we have found that the results were decidedly good and the change from a blue to a colourless solution sharp we may briefly describe a method recently introduced to our notice by Mr. W. Brumwell of 71, Gamage-buildings, Holborn, London, E.C. In this method the use of potassium or sodium tartrate is done away with altogether, ammonia being depended upon for dissolving the suboxide of copper reduced by the grape sugar. The special point about the method, however, is that the double salt of sulphate of ammonia and copper is employed instead of the ordinary sulphate. The reagent is prepared, therefore, with ammonium sulphate, copper sulphate, potassium hydrate, ammonium hydrate, glycerine, and a sufficiency of water so that one cubic centimetre of the reagent is the equivalent of 0·00526 gramme of glucose. The double salt of copper and ammonia may be prepared by adding ammonium hydrate to a solution of copper sulphate until the hydrate precipitated dissolves to a deep blue solution. Alcohol is then added which results in the separation of the double salt of ammonia and copper. The crystals must be used at once as they give off ammonia and basic sulphates form. The solution supplied to us is most convenient to work with and gives accurate results. The change from a blue to a colourless solution is very sharp and can be very readily observed. The results are fairly accurate even when testing a urine containing a small percentage of sugar by adding it to a drachm of the copper reagent drop by drop.

Shoreditch.—The questions are asked in too general terms to make it possible to answer them. If by "private hospital" an institution is meant, before we can give an answer we should require to know the conditions under which the private hospital is founded and the regulations governing it. We should also have to see specimens of the "notices" in question.

Pallas.—We know nothing of the quack preparation in question. We do not give advice as to the prevention of child-bearing.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Ormond-street (9.30 A.M., Dental, 2 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (18th).—MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.30 P.M.: Exhibition of Medico-Legal Specimens. Discussion on Opinion and Fact in Medical Matters (introduced by Dr. C. H. Wise).

WEDNESDAY (19th).—ROYAL METEOROLOGICAL SOCIETY (70, Victoria-street, Westminster, S.W.).—4.30 P.M.: Exhibition of "Step" Anemometer by Mr. W. Child. Papers:—Mr. F. C. Bayard: Weather and Crops, 1891–1906.—Mr. C. P. Hooker: The Relation of the Rainfall to the Depth of Water in a Well at Cirencester, 1903–1906.

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Paper:—Mr. E. M. Nelson: Eye-pieces for the Microscope. Lecture:—Mr. F. Enock: The Life-history of the Tiger Beetle (Cicindela campestris) (illustrated by lantern slides).

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—5.30 P.M.: Mr. D'Arcy Power: Dr. Walter Bayley and his Works, 1529–92. (There will also be a number of exhibits of medical and antiquarian interest.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (17th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. Armour.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Clinique:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 4 P.M.: Special Lecture:—Dr. StClair Thomson: Paralysis of the Vocal Cords.

TUESDAY (18th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M.: Croonian Lecture:—Dr. W. J. R. Simpson: Plague.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles). Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson). 4.30 P.M.: Special Demonstration of X Ray Cases (Mr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 2.15 P.M.: Special Lecture:—Dr. Hewlett: Diagnosis of the Nature of Pathological Exudates.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Mr. C. Nourse: Larynx.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Tooth: Multiple Neuritis.

WEDNESDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

THURSDAY (20th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M.: Croonian Lecture:—Dr. W. J. R. Simpson: Plague.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Special Demonstration of Cases of Children's Disease (Dr. T. R. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 3.15 P.M.: Special Lecture:—Sir William Bennett.

CHARING CROSS HOSPITAL.—4 P.M.: Mr. Waterhouse: Demonstration (Surgical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Kellock: Affections at and about the Umbilicus.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M.: Special Lecture:—Dr. L. W. Sambon: The Development of Africa: A Problem of Comparative Pathology.

FRIDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Abraham: Cases of Skin Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. C. A. Parker: Clinique. (Throat.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. A. Turner: Paralysis Agitans.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Mr. C. Nourse: Larynx.

SATURDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 13th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 7	29·87	W.	0·07	114	68	49	52	56	Cloudy
" 8	29·93	S.W.	0·01	116	67	55	55	59	Cloudy
" 9	29·85	S.	...	119	76	58	60	65	Fine
" 10	29·75	S.W.	0·04	124	69	56	58	62	Cloudy
" 11	29·91	S.W.	...	124	67	54	55	61	Cloudy
" 12	29·67	S.W.	0·06	124	66	56	54	60	Cloudy
" 13	29·82	W.	0·02	122	66	55	54	57	Cloudy

During the week marked copies of the following newspapers have been received:—*Ardrossan and Saleoats Herald, Glasgow Weekly Herald, Wellingborough News, Oxford Gazette, Leamington Spa Courier, Midland Evening News, Norwich Press, Weekly Times and Echo, Daily Express, Morning Advertiser, Broad Arrow, Pall Mall Gazette, Ormskirk Advertiser, Hackney Mercury, Plymouth Morning News, Kensington News, Chiswick Times, Essex Times, Hertfordshire Standard, Essex Newsman, Gresham Standard, Oxford Chronicle, &c.*

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